

Personal Systems Reference Lenovo® ThinkStation® Workstations

June 2013 - Version 437



New ThinkStation Family (ThinkStation C30/D30/S30/E31 Tower)

ThinkStation



Lenovo ThinkStation E31 Tower



Lenovo ThinkStation E31 Tower



Lenovo ThinkStation E31 Tower



Lenovo ThinkStation E31 SFF



Lenovo ThinkStation E31 SFF



Lenovo ThinkStation E31 SFF

ThinkStation® E31 Tower (2555) - TopSeller

											Chassis		
Type-		Memory	Memory	Pre-conf		Media	SATA	Graphics	1394		intrusion	PS/2	Win7
model	Processor	(MHz/ECC)	DIMMs	RAID	Disk(s)	reader	optical	adapter(s)	adptr	Global	switch	rear I/O	preload
2555-31U	Core i3-2120	1600MHz Non-ECC	1x4GB	No	1x500GB SATA	Media	DVD±RW	Intel HD 2000	No	No	Switch	No	Pro 64
2555-32U	Core i3-2120	1600MHz Non-ECC	1x4GB	No	1x500GB SATA	Media	DVD±RW	Quadro 400	No	No	Switch	No	Pro 64
2555-33U	Core i3-2120	1600MHz Non-ECC	1x4GB	No	1x500GB SATA	Media	DVD±RW	Quadro 600	No	No	Switch	No	Pro 64
2555-34U	Core i3-2130	1600MHz Non-ECC	1x4GB	No	1x500GB SATA	Media	DVD±RW	Quadro 600	No	No	Switch	No	Pro 64
2555-35U	Core i3-2130	1600MHz Non-ECC	1x4GB	No	1x500GB SATA	Media	DVD±RW	Quadro 2000	No	No	Switch	No	Pro 64
2555-45U	Xeon E3-1225V2	1600MHz Non-ECC	1x4GB	No	1x500GB SATA	Media	DVD±RW	Quadro 400	No	No	Switch	No	Pro 64
2555-46U	Xeon E3-1225V2	1600MHz Non-ECC	1x4GB	No	1x500GB SATA	Media	DVD±RW	Quadro 600	No	No	Switch	No	Pro 64
2555-47U	Xeon E3-1230V2	1600MHz Non-ECC	1x4GB	No	1x500GB SATA	Media	DVD±RW	Quadro 600	No	No	Switch	No	Pro 64
2555-48U	Xeon E3-1230V2	1600MHz Non-ECC	1x4GB	No	1x500GB SATA	Media	DVD±RW	Quadro 2000	No	No	Switch	No	Pro 64

Intel® Core™ i3-2120 processor (2C/4T, 3.3GHz, 3MB Cache), Processor Tower Intel® Core® i3-2120 processor (2C/4T, 3.3GHz, 3MB Cacne), integrated Intel HD Graphics 2000, DDR3 memory controller (up to 1333MHz) Intel Core i3-2130 processor (2C/4T, 3.4GHz, 3MB Cache), integrated Intel HD Graphics 2000, DDR3 memory controller (up to 1333MHz) Intel Xeon® E3-1225V2 processor (4C/4T, 3.2GHz, 8MB Cache), Turbo Boost 2.0 (up to 3.6GHz), integrated Intel HD Graphics P4000, DDR3 memory controller (up to 1600MHz) Intel Xeon E3-1230V2 processor (4C/8T, 3.3GHz, 8MB Cache), Turbo Boost 2.0 (up to 3.7GHz), DDR3 memory controller (up to 1600MHz) Implementation Memory 32GB max, UDIMM, PC3-12800 1600MHz DDR3, ECC or non-ECC, four 240-pin DIMM sockets; Additional memory • Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs disclaimers Mixing of ECC and non-ECC memory is not supported Graphics Some: Intel HD Graphics in processor, uses main memory, works along with discrete graphics to support multi-display; Xeon E3-1225V2/1245V2/1275V2: Intel HD Graphics P4000 Core i3-2120/2130: Intel HD Graphics 2000 Pentium/Celeron: Intel HD Graphics (connector information please see **Rear ports** section) Some: NVIDIA® Quadro® 400, PCle x16 adapter, 512MB, one DisplayPort™, one dual-link DVI-I, 32W Some: NVIDIA Quadro 600, PCle x16 adapter, 1GB, one DisplayPort, one dual-link DVI-I, 40W Some: NVIDIA Quadro 2000, PCIe x16 adapter, 1GB, two DisplayPort, one dual-link DVI-I, 62W Media reader Media: 29-in-1 Media card reader, internal USB 2.0 Super Multi-Burner DL DVD±RW SATA 1.5Gb/s Drive Optical 250GB/500GB/1TB/2TB/3TB SATA: SATA 6.0Gb/s, 7200 rpm, 3.5" Disk(s) 150GB/300GB/600GB SATA: SATA 6.0Gb/s, 10000 rpm, 2.51 128GB/180GB/256GB SSD: Solid State Drive, SATA 6.0Gb/s, 2.5" Onboard SATA Two SATA 6.0Gb/s connectors (red), two SATA 3.0Gb/s connectors (orange), RAID 0, 1 support via Intel C216 Chipset Onboard SAS Chipset Intel C216 Chipset Front ports Two USB 2.0, microphone (3.5mm), headphone (3.5mm) Rear ports Two USB 2.0, four USB 3.0 (blue), one serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in), one analog VGA DB-15 connector, one DisplayPort connector (Onboard VGA and DisplayPort are functional when the following processors are used: Xeon E3-1225V2/1245V2/1275V2, Core i3-2120/2130, Pentium, and Celeron processors) PS/2 models: additional PS/2 keyboard and mouse connectors via PS/2 rear I/O cable IEEE 1394 adptr No onboard 1394 ports; 1394 models: additional FireWire PCIe adapter, 1394a-2000, 400Mbps, two 6-pin ports on rear High Definition (HD) Audio, Realtek® ALC662 codec Audio Speaker Internal speaker for business audio Ethernet One onboard gigabit ethernet. Intel 82579 Security chip STMicroelectronics ST33ZP24 Trusted Platform Module (TPM), TCG 1.2-compliant Keyboard Preferred Pro USB Keyboard (USB connector), 104-key, black Optical Wheel Mouse (USB connector), black Mouse 280 watts with variable speed fan, autosensing, 85% PSU, Climate Savers® Computing Bronze, 80 PLUS® Bronze qualified Power supply Limited Warranty 3-vear parts and labor, more Lenovo® services see S-TS sheet

optical 3 disk

- · Raven black color; metal case
- 6.9"W x 17.0"D x 16.7"H (with handle)
- 175mm W x 431mm D x 425mm H
- 27.56 lb (12.5kg) max configuration 25-liter
- Removable handle on top front
- Toolless side cover removal
- Toolless disk and optical drive removal
- Toolless adapter retention
- Illuminated front icons
- Recessed power button

Bay 1: 5.25", 1.6" high, access, Bay 2: 5.25", 1.6" high, access, Bay 3: 3.5", 1" high, access, Bay 4: 3.5", 1" high, internal, Bay 5: 3.5", 1" high, internal, for optical open for media reader

for disk internal, for disk

Slot 1: half-length, full-height, PCIe* x16 (75w max, near CPU)

* PCIe 2.0 x16 on Core i3/Pentium/Celeron models, PCIe 3.0 x16 on Xeon models

Slot 2: half-length, full-height, PCIe 2.0 x1 Slot 3: half-length, full-height, 32-bit PCI 2.3 Slot 4: half-length, full-height, 32-bit PCI 2.3

Intel AMT

Intel AMT supported on model(s) with Xeon processor

Preloaded operating system²⁰

Windows® 7 Professional 64

Preloaded applications⁵ (only some listed)

Rescue and Recovery

- Norton® Internet Security (30 days of virus definitions) Adobe® Reader®
- Microsoft® Office 2013 preloaded;
- purchase product key to activate Corel® WinDVD® (DVD±RW model(s))
- Ulead® DVD MovieFactory® (DVD±RW model(s))

SECURITY

- Security chip (see information on left)
- 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
- Serial port I/O control
- USB port disablement (front or all/individual)
- Chassis intrusion switch available on selected model(s)

ISV certifications

Please visit www.lenovo.com/support/ISV

GREENGUARD® certified RoHS-compliant EPEAT™ Gold rating **ENERGY STAR 5.2-compliant**

ThinkStation® E31 Tower (2555) - TopSeller (June 5, 2012)

											Ohaaaia			
Type- model	Processor	Memory (MHz/ECC)	Memory DIMMs	Pre-conf RAID	Disk(s)	Media reader	SATA optical	Graphics adapter(s)		Global		rear I/O	Win7 preload	
	Core i5-3450 Core i5-3450	1600MHz Non-ECC 1600MHz Non-ECC		No No	1x500GB SATA 1x500GB SATA			Intel HD 2500 Quadro 400	No No	No No	Switch Switch	No No	Pro 64 Pro 64	
	Core i5-3450	1600MHz Non-ECC		No	1x500GB SATA			Quadro 600	No	No	Switch	No	Pro 64	
	Core i5-3550	1600MHz Non-ECC		No	1x500GB SATA			Quadro 600	No	No	Switch	No	Pro 64	
	Core i5-3550 Core i7-3770	1600MHz Non-ECC 1600MHz Non-ECC		No No	1x500GB SATA 1x500GB SATA			Quadro 2000 Intel HD 4000	No No	No No	Switch Switch	No No	Pro 64 Pro 64	
	Core i7-3770	1600MHz Non-ECC		No	1x500GB SATA			Quadro 400	No	No	Switch	No	Pro 64	
	Core i7-3770	1600MHz Non-ECC		No	1x500GB SATA			Quadro 600	No	No	Switch	No	Pro 64	
Processor	Intel®	Core [™] i5-3450 prodated Intel HD Graphi	cessor (4	C/4T, 3.1G	Hz, 6MB Cache),		Tower		-				
	Turbo Intel C integra Turbo Intel C integra Turbo	Boost 2.0 (up to 3.5) Core i5-3550 proces ated Intel HD Graphi Boost 2.0 (up to 3.7) Core i7-3770 proces ated Intel HD Graphi Boost 2.0 (up to 3.9)	GHz), DD ssor (4C/4 cs 2500, GHz), DD ssor (4C/4 cs 4000,	R3 memor 3T, 3.4GHz	y controller (up to , 8MB Cache),	o 1600N	1Hz)	optical ② ③ disk	 Raven black color; metal case 6.9"W x 17.0"D x 16.7"H (with ha 175mm W x 431mm D x 425mm 27.56 lb (12.5kg) max configurati 25-liter Removable handle on top front Toolless side cover removal Toolless disk and optical drive rei 					
Implementation Memory		GA1155 socket max, UDIMM, PC3-	12800 16	00MHz DD	B3 FCC or non	-FCC					apter reten front icons			
Wichiory		40-pin DIMM sockets		OOMITIZ DD	no, Loo or non			11			ower butto			
Additional medisclaimers	contr	al memory operating sp coller speed, installed m	emory spe	ed, and qua	ntity of memory DIN	//Ms		(5)						
		ng of ECC and non-EC						Bay 1: 5.25", Bay 2: 5.25",				ptical		
Graphics	Some	: Intel HD Graphics discrete graphics to Xeon E3-1225V2/1 Core i7-3770:	support 245V2/12	multi-displa 275V2: Inte Inte	ly; el HD Graphics P el HD Graphics 4	4000 000	ng with	Bay 3: 3.5", Bay 4: 3.5", Bay 5: 3.5",	1" high, 1" high,	acces	ss, for n nal, for d	nedia rea lisk	ader	
		Core i5-3450/3470/ Core i3-2120/2130			el HD Graphics 2 el HD Graphics 2			Slot 1: half-ler	ngth, full-	height, l	PCle* x16			
		Pentium/Celeron: (connector information)	tion pleas		el HD Graphics r ports section)			* PCIe 2.0 x16 d	on Core i3					
	Some	: NVIDIA® Quadro® one DisplayPort™,	400 , PCI6	x16 adapt	ter, 512MB,			PCIe 3.0 x16 d						
	Some	NVIDIA Quadro 60	0, PCle x	16 adapter	; 1GB,			Slot 2: half-ler Slot 3: half-ler						
	Some	one DisplayPort, or NVIDIA Quadro 20: two DisplayPort, on	00, PCle	x16 adapte	er, 1GB,			Slot 4: half-ler						
Media reader		: 29-in-1 Media card	d reader, i	nternal US	B 2.0									
Optical		Multi-Burner DL DV				2 5"		Intal AMT aux		Intel AN				
Disk(s)		B/500GB/1TB/2TB/3 B/300GB/600GB SA			Gb/s, 7200 rpm, Gb/s, 10000 rpm			Intel AMT sup	portea (on mode	ei(s) with X	eon prod	essor	
		B/180GB/256GB SS			te Drive, SATA 6.		2.5"		Preload	ed oper	rating sys	tem ²⁰		
Onboard SAT		ATA 6.0Gb/s connection, 1 support via Intel			3.0Gb/s connec	tors (ora	inge),	• Windows® 7						
Onboard SAS		o, roupport via into	1021001	прост				 Preloa Rescue and 			ns⁵ <i>(only s</i>	ome list	ted)	
Chipset		C216 Chipset						 Norton® Inte 	ernet Se		0 days of	virus defi	nitions)	
Front ports		SB 2.0, microphone				act (D.L.	4E) throo	 Adobe® Rea Microsoft® C 		13 prelo	aded:			
Rear ports	analog	SB 2.0, four USB 3.0 a audio ports (line-in	. line-out.	mic-in), on	e analog VGA D	161 (153-4 B-15 cor	nnector.	purchase pr	oduct ke	ev to act	ivate			
		isplayPort connector					,	 Corel® WinE Ulead® DVE)VD® (D\) MovieF	/D±RW	model(s))	/ model(s	2))	
		ard VGA and Displated: Xeon E3-1225V						• Olead DVL			•	rinodei(s	?//	
		3-2120/2130, Pentiu				6 10-040	, , , , , , , , , , , , , , , , , , , ,	0 " 1		SECURI				
		models: additional F	PS/2 keyb	oard and n		S		Security chiPadlock loo						
IEEE 1004 a	aluatu Na aus	via PS/2 re	ar I/O cat	ole				padlock pro						
IEEE 1394 a		board 1394 ports; models: additional Fi						 Security slo Kensington 	Micros	saver® c	able;			
Audio	High F	400Mbps, tv Definition (HD) Audio						prohibits sid	de cover	remova				
Speaker		al speaker for busine		ALOUUZ (,000			Power-on pAdministrat						
Ethernet	One o	nboard gigabit ether	net, Intel					Boot seque						
Security chip		roelectronics ST33Z	ZP24 Trus	ted Platforr	m Module (TPM),			 Boot without 	it keyboa	ard, mou	ıse			
IZ de d		1.2-compliant			4041 // /			Serial port IUSB port di			t or all/indi	vidual)		
Keyboard Mouse		red Pro USB Keyboa Il Wheel Mouse (USI			, 104-key, black			 Chassis inti 					model(s	
Power supply	/ 280 w	atts with variable spe	eed fan, a	utosensing	ı, 85% PSU,	ified		5 1 1.11			ifications			
Linete Link		te Savers® Comput						Please visit w	ww.leno	vo.com/	/support/IS	δV		
Limited Warra	anty 3-year	parts and labor, mo	re Lenov	o services	see S-TS sheet			GREENGUA		ified				
								RoHS-compli						
								EPEAT™ Go ENERGY ST	u rating AR 5.2-0	omolian	nt			
							}	More compat				ae O-DFI	M shoot	
								wore compat	ibio acce	23301169	, picase st	-DE	ייו טווככנ	

ThinkStation® E31 Tower (2555) - TopSeller (September 2012)

											Chassis		
Type-		Memory	Memory	Pre-conf		Media	SATA	Graphics	1394		intrusion	PS/2	Win7
model	Processor	(MHz/ECC)	DIMMs	RAID	Disk(s)	reader	optical	adapter(s)	adptr	Global	switch	rear I/O	preload
2555-ALU	Core i3-2130	1600MHz Non-ECC	1x4GB	No	1x128GB SSD	Media	DVD±RW	Intel HD 2000	No	No	Switch	No	Pro 64
2555-AMU	E3-1245V2	1600MHz Non-ECC	1x4GB	No	1x180GB SSD	Media	DVD±RW	Quadro 400	No	No	Switch	No	Pro 64
2555-ANU	E3-1275V2	1600MHz Non-ECC	1x4GB	No	1x256GB SSD	Media	DVD±RW	Quadro 600	No	No	Switch	No	Pro 64

Processor Implementation	Intel® Core™ i3-2130 processor (2C/4T, 3.4GHz, 3MB Cache), integrated Intel HD Graphics 2000, DDR3 memory controller (up to 1333MHz)) Intel Xeon® E3-1245V2 processor (4C/8T, 3.4GHz, 8MB Cache), Turbo Boost 2.0 (up to 3.8GHz), integrated Intel HD Graphics P4000, DDR3 memory controller (up to 1600MHz) Intel Xeon E3-1275V2 processor (4C/8T, 3.5GHz, 8MB Cache), Turbo Boost 2.0 (up to 3.9GHz), integrated Intel HD Graphics P4000, DDR3 memory controller (up to 1600MHz) One LGA1155 socket	Paven black color; metal case 6.9"W x 17.0"D x 16.7"H (with handle) 175mm W x 431mm D x 425mm H 27.56 lb (12.5kg) max configuration 25-liter Removable handle on top front Toolless side cover removal Toolless disk and optical drive removal
Memory	32GB max, UDIMM, PC3-12800 1600MHz DDR3, ECC or non-ECC, four 240-pin DIMM sockets;	Toolless adapter retention Illuminated front icons
Additional memory disclaimers	Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs Mixing of ECC and non-ECC memory is not supported	Recessed power button
Graphics	Some: Intel HD Graphics in processor, uses main memory, works along with discrete graphics to support multi-display; Xeon E3-1225V2/1245V2/1275V2: Intel HD Graphics P4000 Core i7-3770: Intel HD Graphics 4000 Core i5-3450/3470/3550: Intel HD Graphics 2500 Core i3-2120/2130: Intel HD Graphics 2000 Pentium/Celeron: Intel HD Graphics (connector information please see Rear ports section) Some: NVIDIA® Quadro® 400, PCle x16 adapter, 512MB, one DisplayPort™, one dual-link DVI-I, 32W Some: NVIDIA Quadro 600, PCle x16 adapter, 1GB, one DisplayPort, one dual-link DVI-I, 40W	Bay 1: 5.25", 1.6" high, access, for optical Bay 2: 5.25", 1.6" high, access, open Bay 3: 3.5", 1" high, access, for media reader Bay 4: 3.5", 1" high, internal, for disk Bay 5: 3.5", 1" high, internal, for disk Slot 1: half-length, full-height, PCle* x16 (75w max, near CPU) * PCle 2.0 x16 on Core i3/Pentium/Celeron models, PCle 3.0 x16 on Xeon models Slot 2: half-length, full-height, PCle 2.0 x1 Slot 3: half-length, full-height, 32-bit PCl 2.3 Slot 4: half-length, full-height, 32-bit PCl 2.3
Media reader Optical Disk(s)	Media: 29-in-1 Media card reader, internal USB 2.0 Super Multi-Burner DL DVD±RW SATA 1.5Gb/s Drive 250GB/500GB/1TB/2TB/3TB SATA: SATA 6.0Gb/s, 7200 rpm, 3.5" 150GB/300GB/600GB SATA: SATA 6.0Gb/s, 10000 rpm, 2.5"	
Onboard SATA	128GB/180GB/256GB SSD: Solid State Drive, SATA 6.0Gb/s, 2.5" Two SATA 6.0Gb/s connectors (red), two SATA 3.0Gb/s connectors (orange),	Intel AMT Intel AMT supported on model(s) with Xeon processor
Onboard SAS	RAID 0, 1 support via Intel C216 Chipset None	Preloaded operating system ²⁰
Chipset	Intel C216 Chipset	• Windows® 7 Professional 64
Front ports Rear ports	Two USB 2.0, microphone (3.5mm), headphone (3.5mm) Two USB 2.0, four USB 3.0 (blue), one serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in), one analog VGA DB-15 connector, one DisplayPort connector (Onboard VGA and DisplayPort are functional when the following processors are used: Xeon E3-1225V2/1245V2/1275V2, Core i7-3770, Core i5-3450/3550, Core i3-2120/2130, Pentium, and Celeron processors)	Preloaded applications ⁵ (only some listed) Rescue and Recovery [®] Norton ⁸ Internet Security (30 days of virus definitions) Adobe [®] Reader [®] Microsoft [®] Office 2013 preloaded; purchase product key to activate Corel [®] WinDVD [®] (DVD±RW model(s)) Ulead [®] DVD MovieFactory [®] (DVD±RW model(s))
	PS/2 models: additional PS/2 keyboard and mouse connectors via PS/2 rear I/O cable	SECURITY
IEEE 1394 adptr Audio	No onboard 1394 ports; 1394 models: additional FireWire PCIe adapter, 1394a-2000, 400Mbps, two 6-pin ports on rear High Definition (HD) Audio, Realtek® ALC662 codec	Security chip (see information on left) Padlock loop (in rear for opt padlock; padlock prohibits side cover removal) Security slot (in rear for optional
Speaker Ethernet	Internal speaker for business audio One onboard gigabit ethernet, Intel 82579	Kensington® Microsaver® cable; prohibits side cover removal)
Security chip	STMicroelectronics ST33ZP24 Trusted Platform Module (TPM), TCG 1.2-compliant	Power-on password Administrator password Boot sequence control
Keyboard	Preferred Pro USB Keyboard (USB connector), 104-key, black	Boot without keyboard, mouse
Mouse Power supply	Optical Wheel Mouse (USB connector), black 280 watts with variable speed fan, autosensing, 85% PSU, Climate Savers® Computing Bronze, 80 PLUS® Bronze qualified	Serial port I/O control USB port disablement (front or all/individual) Chassis intrusion switch available on selected model(s)
Limited Warranty	3-year parts and labor, more Lenovo® services see S-TS sheet	ISV certifications
		Please visit www.lenovo.com/support/ISV
		GREENGUARD® certified RoHS-compliant EPEAT™ Gold rating ENERGY STAR 5.2-compliant
		More compatible accessories, please see O-DEM sheet

ThinkStation® E31 Tower (2555) - TopSeller (October 2012)

											Chassis		
Type-		Memory	Memory	Pre-conf		Media	SATA	Graphics	1394		intrusion	PS/2	Preload
model	Processor	(MHz/ECC)	DIMMs	RAID	Disk(s)	reader	optical	adapter(s)	adptr	Global	switch	rear I/O	os
2555-APU	Core i3-2120	1600MHz Non-ECC	1x4GB	No	1x500GB SATA	Media	DVD±RW	Quadro 410	No	No	Switch	No	Win8 Pro64
2555-AQU	Core i5-3470	1600MHz Non-ECC	1x4GB	No	1x500GB SATA	Media	DVD±RW	Quadro 410	No	No	Switch	No	Win8 Pro64
2555-ASU	Xeon E3-1230V2	1600MHz Non-ECC	1x4GB	No	1x500GB SATA	Media	DVD±RW	Quadro 410	No	No	Switch	No	Win8 Pro64
2555-ATU	Core i7-3770	1600MHz Non-ECC	1x4GB	No	1x500GB SATA	Media	DVD±RW	Quadro 410	No	No	Switch	No	Win8 Pro64

Processor Implementation	Intel® Core™ i3-2120 processor (2C/4T, 3.3GHz, 3MB Cache), integrated Intel HD Graphics 2000, DDR3 memory controller (up to 1333MHz) Intel Core i5-3470 processor (4C/4T, 3.2GHz, 6MB Cache), integrated Intel HD Graphics 2500, Turbo Boost 2.0 (up to 3.6GHz), DDR3 memory controller (up to 1600MHz) Intel Core i7-3770 processor (4C/8T, 3.4GHz, 8MB Cache), integrated Intel HD Graphics 4000, Turbo Boost 2.0 (up to 3.9GHz), DDR3 memory controller (up to 1600MHz) Intel Xeon® E3-1230V2 processor (4C/8T, 3.3GHz, 8MB Cache), Turbo Boost 2.0 (up to 3.7GHz), DDR3 memory controller (up to 1600MHz) One LGA1155 socket	Paven black color 6.9"W x 17.0"D x 175mm W x 431m 27.56 lb (12.5kg) 25-liter Removable handle Toolless disk and Toolless adapter r Illuminated front ic
Memory	32GB max, UDIMM, PC3-12800 1600MHz DDR3, ECC or non-ECC,	Recessed power b
Additional memory disclaimers	 four 240-pin DIMM sockets; Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs Mixing of ECC and non-ECC memory is not supported 	Bay 1: 5.25", 1.6" high, access, Bay 2: 5.25", 1.6" high, access, Bay 2: 5.25", 1.6" high, access, 1" high
Graphics	Some: Intel HD Graphics in processor, uses main memory, works along with discrete graphics to support multi-display; Xeon E3-1225V2/1245V2/1275V2: Intel HD Graphics P4000 Core i7-3770: Intel HD Graphics 4000	Bay 3: 3.5", 1" high, access, Bay 4: 3.5", 1" high, internal, Bay 5: 3.5", 1" high, internal, Slot 1: half-length, full-height, PCle*
	Core i5-3450/3470/3550: Intel HD Graphics 2500 Core i3-2120/2130: Intel HD Graphics 2000 Pentium/Celeron: Intel HD Graphics (connector information please see Rear ports section)	(75w max, near CPU) * PCle 2.0 x16 on Core i3/Pentium/Celero PCle 3.0 x16 on Xeon/Core i5/Core i7 n
	Some: NVIDIA® Quadro® 410, PCle x16 adapter, 512MB, one DisplayPort™, one dual-link DVI-I, 38W	Slot 2: half-length, full-height, PCle 2 Slot 3: half-length, full-height, 32-bit
Media reader	Media: 29-in-1 Media card reader, internal USB 2.0	Slot 4: half-length, full-height, 32-bit
Optical Disk(s)	Super Multi-Burner DL DVD±RW SATA 1.5Gb/s Drive 250GB/500GB/1TB/2TB/3TB SATA: SATA 6.0Gb/s, 7200 rpm, 3.5"	Intel AMT supported on model(s) w
Onboard SATA	150GB/300GB/600GB SATA: SATA 6.0Gb/s, 10000 rpm, 2.5" 128GB/180GB/256GB SSD: Solid State Drive, SATA 6.0Gb/s, 2.5" Two SATA 6.0Gb/s connectors (red), two SATA 3.0Gb/s connectors (orange), RAID 0, 1 support via Intel C216 Chipset	Preloaded operating Some: Windows® 7 Professional 6 Some: Windows 8 Pro 64-bit
Onboard SAS	None	Preloaded applications ⁵ (or
Chipset	Intel C216 Chipset	-Windows 7 models
Front ports Rear ports	Two USB 2.0, microphone (3.5mm), headphone (3.5mm) Two USB 2.0, four USB 3.0 (blue), one serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in), one analog VGA DB-15 connector, one DisplayPort connector (Onboard VGA and DisplayPort are functional when the following processors are used: Xeon E3-1225V2/1245V2/1275V2, Core i7-3770, Core i5-3450/3550, Core i3-2120/2130, Pentium, and Celeron processors) PS/2 models: additional PS/2 keyboard and mouse connectors via PS/2 rear I/O cable	 Rescue and Recovery® Norton™ Internet Security (30 days) Adobe® Reader® Microsoft® Office 2013 preloaded; purchase product key to activate Corel® WinDVD® (DVD±RW mode) Ulead® DVD MovieFactory® (DVD: Windows 8 models Intel AppUp®
IEEE 1394 adptr	No onboard 1394 ports; 1394 models: additional FireWire PCle adapter, 1394a-2000, 400Mbps, two 6-pin ports on rear	Evernote® Norton Internet Security (30 days Norton Studio
Audio Speaker Ethernet Security chip	High Definition (HD) Audio, Realtek® ALC662 codec Internal speaker for business audio One onboard gigabit ethernet, Intel 82579 STMicroelectronics ST33ZP24 Trusted Platform Module (TPM), TCG 1.2-compliant	Skype TM Microsoft Office 2013 preloaded; purchase product key to activate Cyberlink Power2Go (DVD±RW m Cyberlink PowerProducer (DVD±F
Keyboard	Preferred Pro USB Keyboard (USB connector), 104-key, black	
Mouse Power supply	Optical Wheel Mouse (USB connector), black 280 watts with variable speed fan, autosensing, 85% PSU, Climate Savers® Computing Bronze, 80 PLUS® Bronze qualified	SECURITY • Security chip (see information on Padlock loop (in rear for opt padlock)
Limited Warranty	3-year parts and labor, more Lenovo® services see S-TS sheet	padlock prohibits side cover remo
Eco-Label and environmental certifications	GREENGUARD® certified RoHS-compliant EPEAT™ Gold rating ENERGY STAR 5.2-compliant	Security slot (in rear for optional Kensington® Microsaver® cable; prohibits side cover removal) Power-on password Administrator password
ISV certifications	See the latest list of ISV certifications at www.lenovo.com/support/ISV	Boot sequence control

- or; metal case x 16.7"H (with handle) mm D x 425mm H
- max configuration
- dle on top front
- ver removal
- d optical drive removal
- retention
- icons
- button

for optical open

for media reader

for disk for disk

* x16

ron models, models "

e 2.0 x1 bit PCI 2.3 bit PCI 2.3

with Xeon processor

g system²⁰

only some listed)

- lays of virus definitions)

- del(s)) D±RW model(s))
- s of virus definitions)

- model(s)) ±RW model(s))
- n left) llock;
- noval)

- Serial port I/O control
- USB port disablement (front or all/individual)
 Chassis intrusion switch available on selected model(s)

ThinkStation® E31 Tower (2555) - TopSeller (March 2013)

Type- model ¹	Processor	Memory (MHz/ECC)	Memory DIMMs	Pre-conf RAID	Drive(s)	Media reader	SATA optical	Graphics adapter(s)	1394 adptr	PS/2 rear I/O	Chassis intrusion switch	
2555-DQU	Core i3-3220	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5" SATA	Media	DVD±RW	Intel HD 2500	No	No	Switch	Win7 Pro64(DG)
2555-DRU	Core i3-3220	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5" SATA	Media	DVD±RW	Intel HD 2500	No	No	Switch	Win8 Pro64
2555-DSU	Core i3-3220	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5" SATA	Media	DVD±RW	Quadro K600	No	No	Switch	Win7 Pro64(DG)
2555-DTU	Core i3-3220	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5" SATA	Media	DVD±RW	Quadro K600	No	No	Switch	Win8 Pro64
2555-DUU	Core i3-3220	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5" SATA	Media	DVD±RW	Quadro 410	No	No	Switch	Win8 Pro64
2555-DVU	Core i3-3240	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5" SATA	Media	DVD±RW	Quadro K600	No	No	Switch	Win8 Pro64
2555-DWU	Core i3-3240	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5" SATA	Media	DVD±RW	Quadro K600	No	No	Switch	Win7 Pro64(DG)

- Model in italics shows that this is a Global Model Win7 Pro64(DG) = Windows 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit

Processor	Intel [®] Core [™] i3-3220 processor (2C/4T, 3.3GHz, 3MB Cache), integrated Intel HD Graphics 2500, DDR3 memory controller (up to 1600MHz)	Tower
	Intel Core i3-3240 processor (2C/4T, 3.4GHz, 3MB Cache),	
Implementation	integrated Intel HD Graphics 2500, DDR3 memory controller (up to 1600MHz) One LGA1155 socket	optic
Memory	32GB max, UDIMM, PC3-12800 1600MHz DDR3, ECC or non-ECC,	
	four 240-pin DIMM sockets;	3
Additional memor	Actual memory operating speed depends on processor memory	disk

disclaimers

ISV certifications

Limited Warranty

ThinkVantage

- controller speed, installed memory speed, and quantity of memory DIMMs
- Mixing of ECC and non-ECC memory is not supported

Graphics Some: Intel HD Graphics in processor, uses main memory, works along with discrete graphics to support multi-display; (detailed graphics model name please see **Processor** section, connector information please see Rear ports section)
Some: NVIDIA® Quadro® 410, PCle x16 adapter, 512MB,

one DisplayPort, one dual-link DVI-I, 37W Some: NVIDIA Quadro K600, PCle x16 adapter, 1GB, one DisplayPort, one dual-link DVI-I, 41W

Media reader 29-in-1 Media card reader in selected models, internal USB 2.0 Optical DVD, DVD±RW, or Blu-ray, depending on model

ENERGY STAR 5.2-compliant

Supports ThinkVantage® technologies

Drive(s)	3.5" SATA: SATA 6.0Gb/s, 7200 rpm, 3.5" 2.5" SATA: SATA 6.0Gb/s, 10000 rpm, 2.5" SSD: Solid State Drive, SATA 6.0Gb/s, 2.5"
Onboard SATA	Two SATA 6.0Gb/s connectors (red), two SATA 3.0Gb/s connectors (orange), RAID 0, 1 support via Intel C216 Chipset
Onboard SAS	None
Chipset	Intel C216 Chipset
Front ports Rear ports	Two USB 2.0, microphone (3.5mm), headphone (3.5mm) Two USB 2.0, four USB 3.0 (blue), one serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in), one analog VGA DB-15 connector, one DisplayPort connector (Onboard VGA and DisplayPort™ are functional when the following processors are used: Xeon E3-12X5V2, Core i7, i5, i3, Pentium, and Celeron processors) PS/2 models: additional PS/2 keyboard and mouse connectors via PS/2 rear I/O cable
IEEE 1394 adptr	No onboard 1394 ports; 1394 models: additional FireWire PCIe adapter, 1394a-2000, 400Mbps, two 6-pin ports on rear
Audio Speaker	High Definition (HD) Audio, Realtek® ALC662 codec Internal speaker for business audio
Ethernet	One onboard gigabit ethernet, Intel 82579
Security chip	STMicroelectronics ST33ZP24 Trusted Platform Module (TPM), TCG 1.2-compliant
Keyboard Mouse Power supply	Preferred Pro USB Keyboard (USB connector), 104-key, black Optical Wheel Mouse (USB connector), black 280 watts with variable speed fan, autosensing, 85% PSU, Climate Savers® Computing Bronze, 80 PLUS® Bronze qualified
Eco-Label and environmental certifications	GREENGUARD® certified RoHS-compliant EPEAT™ Gold rating

See the latest list of ISV certifications at www.lenovo.com/support/ISV

3-year parts and labor, more Lenovo® services see S-TS sheet



- Raven black color; metal case
- 6.9"W x 17.0"D x 16.7"H (with handle)
- 175mm W x 431mm D x 425mm H 27.56 lb (12.5kg) max configuration
- 25-liter
- Removable handle on top front
- Toolless side cover removal
- Toolless disk and optical drive removal

for disk

- Toolless adapter retention
- Illuminated front icons
- · Recessed power button

Bay 1: 5.25", 1.6" high, access, Bay 2: 5.25", 1.6" high, access, Bay 3: 3.5", 1" high, access, Bay 4: 3.5", 1" high, internal, Bay 5: 3.5", 1" high, internal, for optical open for media reader for disk

Slot 1: half-length, full-height, PCle* x16 (75w max, near CPU)
* PCle 2.0 x16 on Core i3/Pentium/Celeron models, PCle 3.0 x16 on Xeon/Core i5/Core i7 models

Slot 2: half-length, full-height, PCIe 2.0 x1 Slot 3: half-length, full-height, 32-bit PCI 2.3 Slot 4: half-length, full-height, 32-bit PCI 2.3

Intel AMT

Intel AMT supported on model(s) with Xeon processor

Preloaded operating system²⁰

Windows® 7 Professional 64 Some: Windows 7 Professional 64 Some: preinstalled through downgrade rights in Windows 8 Pro 64-bit

Windows 8 Pro 64-bit

Preloaded applications⁵ (only some listed)

-Windows 7 models

- Rescue and Recovery®
 Norton™ Internet Security (30 days of virus definitions)
- Adobe® Reader®
- · Microsoft® Office 2013 preloaded;
- purchase product key to activate . Corel® WinDVD® (DVD±RW model(s))
- Ulead® DVD MovieFactory® (DVD±RW model(s))

-Windows 8 models

- Evernote^o
- 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))

- · Security chip (see information on left) 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
- Serial port I/O control
- USB port disablement (front or all/individual)
- Chassis intrusion switch available on selected model(s)

ThinkStation® E31 Tower (2555) - TopSeller (March 2013) - II

Type- model ¹	Processor	Memory (MHz/ECC)	Memory DIMMs	Pre-conf RAID	Drive(s)	Media reader	SATA optical	Graphics adapter(s)	1394 adptr	PS/2 rear I/O	Chassis intrusion switch	Preload OS ²
2555-DYU	Core i3-3220	1600MHz Non-ECC	1x4GB	No	1x1TB 3.5" SATA	Media	DVD±RW	Quadro K2000	No	No	Switch	Win7 Pro64(DG)
2555-DZU	Core i3-3220	1600MHz Non-ECC	1x4GB	No	1x1TB 3.5" SATA	Media	DVD±RW	Quadro K2000	No	No	Switch	Win8 Pro64
2555-E1U	Core i5-3470	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5" SATA	Media	DVD±RW	Intel HD 2500	No	No	Switch	Win8 Pro64
2555-E2U	Core i5-3470	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5" SATA	Media	DVD±RW	Intel HD 2500	No	No	Switch	Win7 Pro64(DG)
2555-E3U	Core i5-3470	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5" SATA	Media	DVD±RW	Quadro 410	No	No	Switch	Win8 Pro64
2555-E4U	Core i5-3470	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5" SATA	Media	DVD±RW	Quadro K600	No	No	Switch	Win8 Pro64
2555-E5U	Core i5-3470	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5" SATA	Media	DVD±RW	Quadro K600	No	No	Switch	Win7 Pro64(DG)

- Model in italics shows that this is a Global Model
 Win7 Pro64(DG) = Windows 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit

2 VVIII7 1 1004(DG) = VVII	ndows 7 1 Tolessional of premistalied through downgrade rights in Windows of 10 of the
Processor	Intel® Core™ i3-3220 processor (2C/4T, 3.3GHz, 3MB Cache), integrated Intel HD Graphics 2500, DDR3 memory controller (up to 1600MHz) Intel Core i5-3470 processor (4C/4T, 3.2GHz, 6MB Cache), integrated Intel HD Graphics 2500, Turbo Boost 2.0 (up to 3.6GHz), DDR3 memory controller (up to 1600MHz)
Implementation	One LGA1155 socket
Memory	32GB max, UDIMM, PC3-12800 1600MHz DDR3, ECC or non-ECC, four 240-pin DIMM sockets;
Additional memory disclaimers	 Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs Mixing of ECC and non-ECC memory is not supported
Graphics	Some: Intel HD Graphics in processor, uses main memory, works along with discrete graphics to support multi-display; (detailed graphics model name please see Processor section, connector information please see Rear ports section) Some: NVIDIA® Quadro® 410, PCIe x16 adapter, 512MB, one DisplayPort, one dual-link DVI-I, 37W Some: NVIDIA Quadro K600, PCIe x16 adapter, 1GB, one DisplayPort, one dual-link DVI-I, 41W Some: NVIDIA Quadro K2000, PCIe x16 adapter, 2GB, two DisplayPort, one dual-link DVI-I, 51W
Media reader Optical Drive(s)	29-in-1 Media card reader in selected models, internal USB 2.0 DVD, DVD±RW, or Blu-ray, depending on model 3.5" SATA: SATA 6.0Gb/s, 7200 rpm, 3.5" 2.5" SATA: SATA 6.0Gb/s, 10000 rpm, 2.5" SSD: Solid State Drive, SATA 6.0Gb/s, 2.5"
Onboard SATA Onboard SAS	Two SATA 6.0Gb/s connectors (red), two SATA 3.0Gb/s connectors (orange), RAID 0, 1 support via Intel C216 Chipset None
Chipset	Intel C216 Chipset
Front ports Rear ports	Two USB 2.0, microphone (3.5mm), headphone (3.5mm) Two USB 2.0, four USB 3.0 (blue), one serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in), one analog VGA DB-15 connector, one DisplayPort connector (Onboard VGA and DisplayPort [™] are functional when the following processors are used: Xeon E3-12X5V2, Core i7, i5, i3, Pentium, and Celeron processors) PS/2 models: additional PS/2 keyboard and mouse connectors via PS/2 rear I/O cable
IEEE 1394 adptr	No onboard 1394 ports; 1394 models: additional FireWire PCIe adapter, 1394a-2000, 400Mbps, two 6-pin ports on rear
Audio Speaker Ethernet Security chip	High Definition (HD) Audio, Realtek® ALC662 codec Internal speaker for business audio One onboard gigabit ethernet, Intel 82579 STMicroelectronics ST33ZP24 Trusted Platform Module (TPM), TCG 1.2-compliant
Keyboard Mouse Power supply	Preferred Pro USB Keyboard (USB connector), 104-key, black Optical Wheel Mouse (USB connector), black 280 watts with variable speed fan, autosensing, 85% PSU, Climate Savers® Computing Bronze, 80 PLUS® Bronze qualified
Eco-Label and environmental	GREENGUARD® certified RoHS-compliant

See the latest list of ISV certifications at www.lenovo.com/support/ISV

3-year parts and labor, more Lenovo® services see S-TS sheet

Tower



- Raven black color; metal case
- 6.9"W x 17.0"D x 16.7"H (with handle)
- 175mm W x 431mm D x 425mm H 27.56 lb (12.5kg) max configuration
- 25-liter
- Removable handle on top front
- Toolless side cover removal
- Toolless disk and optical drive removal
- Toolless adapter retention
- Illuminated front icons
- · Recessed power button

Bay 1: 5.25", 1.6" high, access, Bay 2: 5.25", 1.6" high, access, Bay 3: 3.5", 1" high, access, Bay 4: 3.5", 1" high, internal, Bay 5: 3.5", 1" high, internal, for optical open for media reader

for disk for disk

Slot 1: half-length, full-height, PCle* x16 (75w max, near CPU)
* PCle 2.0 x16 on Core i3/Pentium/Celeron models, PCle 3.0 x16 on Xeon/Core i5/Core i7 models

Slot 2: half-length, full-height, PCIe 2.0 x1 Slot 3: half-length, full-height, 32-bit PCI 2.3 Slot 4: half-length, full-height, 32-bit PCI 2.3

Intel AMT

Intel AMT supported on model(s) with Xeon processor

Preloaded operating system²⁰

Windows® 7 Professional 64 Some: Windows 7 Professional 64 Some: preinstalled through downgrade rights in Windows 8 Pro 64-bit

Windows 8 Pro 64-bit

Preloaded applications⁵ (only some listed)

-Windows 7 models

- Rescue and Recovery®
 Norton™ Internet Security (30 days of virus definitions)

Adobe® Reader®

- Microsoft® Office 2013 preloaded; purchase product key to activate
- Corel® WinDVD® (DVD±RW model(s))
- Ulead® DVD MovieFactory® (DVD±RW model(s))

-Windows 8 models

- Evernote^o
- 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))

- Security chip (see information on left) 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
- Serial port I/O control
- USB port disablement (front or all/individual)
- Chassis intrusion switch available on selected model(s)

More compatible accessories, please see O-DEM sheet

EPEAT™ Gold rating **ENERGY STAR 5.2-compliant**

Supports ThinkVantage® technologies

certifications

ISV certifications

Limited Warranty

ThinkVantage

ThinkStation® E31 Tower (2555) - TopSeller (March 2013) - III

Type- model ¹	Processor	Memory (MHz/ECC)	Memory DIMMs	Pre-conf RAID	Drive(s)	Media reader	SATA optical	Graphics adapter(s)	1394 adptr	PS/2 rear I/O	Chassis intrusion switch	Preload OS ²
2555-E6U	Core i5-3550	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5" SATA	Media	DVD±RW	Quadro K600	No	No	Switch	Win7 Pro64(DG)
2555-E7U	Core i5-3550	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5" SATA	Media	DVD±RW	Quadro K600	No	No	Switch	Win8 Pro64
2555-E8U	Core i5-3550	1600MHz Non-ECC	1x4GB	No	1x1TB 3.5" SATA	Media	DVD±RW	Quadro K2000	No	No	Switch	Win8 Pro64
2555-E9U	Core i5-3550	1600MHz Non-ECC	1x4GB	No	1x1TB 3.5" SATA	Media	DVD±RW	Quadro K2000	No	No	Switch	Win7 Pro64(DG)
2555-EAU	Core i7-3770	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5" SATA	Media	DVD±RW	Intel HD 4000	No	No	Switch	Win7 Pro64(DG)
2555-EBU	Core i7-3770	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5" SATA	Media	DVD±RW	Intel HD 4000	No	No	Switch	Win8 Pro64
2555-ECU	Core i7-3770	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5" SATA	Media	DVD±RW	Quadro 410	No	No	Switch	Win8 Pro64

1 Model in italice shows that this is a Global Model

	tnat this is a Giobal Model Idows 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit
Processor	Intel® Core™ i5-3550 processor (4C/4T, 3.3GHz, 6MB Cache), integrated Intel HD Graphics 2500, Turbo Boost 2.0 (up to 3.7GHz), DDR3 memory controller (up to 1600MHz) Intel Core i7-3770 processor (4C/8T, 3.4GHz, 8MB Cache), integrated Intel HD Graphics 4000, Turbo Boost 2.0 (up to 3.9GHz), DDR3 memory controller (up to 1600MHz)
Implementation	One LGA1155 socket
Memory	32GB max, UDIMM, PC3-12800 1600MHz DDR3, ECC or non-ECC, four 240-pin DIMM sockets;
Additional memory disclaimers	 Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs Mixing of ECC and non-ECC memory is not supported
Graphics	Some: Intel HD Graphics in processor, uses main memory, works along with discrete graphics to support multi-display; (detailed graphics model name please see Processor section, connector information please see Rear ports section) Some: NVIDIA® Quadro® 410, PCIe x16 adapter, 512MB, one DisplayPort, one dual-link DVI-I, 37W Some: NVIDIA Quadro K600, PCIe x16 adapter, 1GB, one DisplayPort, one dual-link DVI-I, 41W Some: NVIDIA Quadro K2000, PCIe x16 adapter, 2GB,

Media reader Optical Drive(s)

29-in-1 Media card reader in selected models, internal USB 2.0 DVD, DVD±RW, or Blu-ray, depending on model 3.5" SATA: 2.5" SATA: SATA 6.0Gb/s, 7200 rpm, 3.5" SATA 6.0Gb/s, 10000 rpm, 2.5" Solid State Drive, SATA 6.0Gb/s, 2.5" SSD

Onboard SATA Two SATA 6.0Gb/s connectors (red), two SATA 3.0Gb/s connectors (orange), RAID 0, 1 support via Intel C216 Chipset Onboard SAS

two DisplayPort, one dual-link DVI-I, 51W

Chipset Intel C216 Chipset Front ports Two USB 2.0, microphone (3.5mm), headphone (3.5mm) Rear ports

Two USB 2.0, four USB 3.0 (blue), one serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in), one analog VGA DB-15 connector, one DisplayPort connector

(Onboard VGA and DisplayPort[™] are functional when the following processors are used: Xeon E3-12X5V2, Core i7, i5, i3, Pentium, and Celeron processors) PS/2 models: additional PS/2 keyboard and mouse connectors

via PS/2 rear I/O cable

IEEE 1394 adptr

certifications

No onboard 1394 ports;

1394 models: additional FireWire PCle adapter, 1394a-2000,

400Mbps, two 6-pin ports on rear High Definition (HD) Audio, Realtek® ALC662 codec

Audio Speaker Internal speaker for business audio

One onboard gigabit ethernet, Intel 82579 Ethernet

Security chip STMicroelectronics ST33ZP24 Trusted Platform Module (TPM),

TCG 1.2-compliant

Preferred Pro USB Keyboard (USB connector), 104-key, black Keyboard

Optical Wheel Mouse (USB connector), black Mouse Power supply

280 watts with variable speed fan, autosensing, 85% PSU, Climate Savers® Computing Bronze, 80 PLUS® Bronze qualified

Eco-Label and GREENGUARD® certified environmental RoHS-compliant

EPEAT™ Gold rating **ENERGY STAR 5.2-compliant**

ISV certifications See the latest list of ISV certifications at www.lenovo.com/support/ISV

ThinkVantage Supports ThinkVantage® technologies

Limited Warranty 3-year parts and labor, more Lenovo® services see S-TS sheet Tower



- Raven black color; metal case
- 6.9"W x 17.0"D x 16.7"H (with handle)
- 175mm W x 431mm D x 425mm H 27.56 lb (12.5kg) max configuration
- 25-liter
- Removable handle on top front
- Toolless side cover removal
- Toolless disk and optical drive removal
- Toolless adapter retention
- Illuminated front icons
- · Recessed power button

Bay 1: 5.25", 1.6" high, access, Bay 2: 5.25", 1.6" high, access, Bay 3: 3.5", 1" high, access, Bay 4: 3.5", 1" high, internal, Bay 5: 3.5", 1" high, internal, for optical open

for media reader

for disk for disk

Slot 1: half-length, full-height, PCle* x16 (75w max, near CPU)

PCIe 2.0 x16 on Core i3/Pentium/Celeron models. PCIe 3.0 x16 on Xeon/Core i5/Core i7 models

Slot 2: half-length, full-height, PCIe 2.0 x1 Slot 3: half-length, full-height, 32-bit PCI 2.3 Slot 4: half-length, full-height, 32-bit PCI 2.3

Intel AMT

Intel AMT supported on model(s) with Xeon processor

Preloaded operating system²⁰

Windows® 7 Professional 64 Some: Windows 7 Professional 64 Some: preinstalled through downgrade

rights in Windows 8 Pro 64-bit

Windows 8 Pro 64-bit

Preloaded applications⁵ (only some listed)

-Windows 7 models

- Rescue and Recovery®
 Norton™ Internet Security (30 days of virus definitions)

Adobe® Reader®

- Microsoft® Office 2013 preloaded; purchase product key to activate
- . Corel® WinDVD® (DVD±RW model(s))
- Ulead® DVD MovieFactory® (DVD±RW model(s))

-Windows 8 models

- Evernote^o
- · 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))

- · Security chip (see information on left)
- 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
- Serial port I/O control
- USB port disablement (front or all/individual)
- Chassis intrusion switch available on selected model(s)

ThinkStation® E31 Tower (2555) - TopSeller (March 2013) - IV

Type- model ¹	Processor	Memory (MHz/ECC)	Memory DIMMs	Pre-conf RAID	Drive(s)	Media reader	SATA optical	Graphics adapter(s)	1394 adptr	PS/2 rear I/O	Chassis intrusion switch	
2555-EDU	Core i7-3770	1600MHz Non-ECC	1x4GB	No	1x1TB 3.5" SATA	Media	DVD±RW	Quadro K600	No	No	Switch	Win7 Pro64(DG)
2555-EEU	Core i7-3770	1600MHz Non-ECC	1x4GB	No	1x1TB 3.5" SATA	Media	DVD±RW	Quadro K600	No	No	Switch	Win8 Pro64
2555-EFU	Xeon E3-1225V2	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5" SATA	Media	DVD±RW	Quadro 410	No	No	Switch	Win8 Pro64
2555-EGU	Xeon E3-1225V2	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5" SATA	Media	DVD±RW	Quadro K600	No	No	Switch	Win8 Pro64
2555-EHU	Xeon E3-1225V2	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5" SATA	Media	DVD±RW	Quadro K600	No	No	Switch	Win7 Pro64(DG)
2555-EJU	Xeon E3-1230V2	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5" SATA	Media	DVD±RW	Quadro K600	No	No	Switch	Win7 Pro64(DG)
2555-EKU	Xeon E3-1230V2	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5" SATA	Media	DVD±RW	Quadro K600	No	No	Switch	Win8 Pro64

- Model in italics shows that this is a Global Model
 Win7 Pro64(DG) = Windows 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit

2 Win7 Pro64(DG) = Win	ndows 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit	
	Intel® Core™ i7-3770 processor (4C/8T, 3.4GHz, 8MB Cache), integrated Intel HD Graphics 4000, Turbo Boost 2.0 (up to 3.9GHz), DDR3 memory controller (up to 1600MHz) Intel Xeon® E3-1225V2 processor (4C/4T, 3.2GHz, 8MB Cache), Turbo Boost 2.0 (up to 3.6GHz), integrated Intel HD Graphics P4000, DDR3 memory controller (up to 1600MHz) Intel Xeon E3-1230V2 processor (4C/8T, 3.3GHz, 8MB Cache), Turbo Boost 2.0 (up to 3.7GHz), DDR3 memory controller (up to 1600MHz) One LGA1155 socket 32GB max, UDIMM, PC3-12800 1600MHz DDR3, ECC or non-ECC, four 240-pin DIMM sockets; • Actual memory operating speed depends on processor memory	Paven black color; metal case 6.9"W x 17.0"D x 16.7"H (with handle) 175mm W x 431mm D x 425mm H 27.56 lb (12.5kg) max configuration 25-liter Removable handle on top front Toolless side cover removal Toolless disk and optical drive removal Toolless adapter retention Illuminated front icons Recessed power button
Graphics	controller speed, installed memory speed, and quantity of memory DIMMs • Mixing of ECC and non-ECC memory is not supported Some: NVIDIA® Quadro® 410, PCIe x16 adapter, 512MB,	Bay 1: 5.25", 1.6" high, access, for optical pay 2: 5.25", 1.6" high, access, open
Madianadan	one DisplayPort, one dual-link DVI-I, 37W Some: NVIDIA Quadro K600, PCIe x16 adapter, 1GB, one DisplayPort, one dual-link DVI-I, 41W	Bay 3: 3.5", 1" high, access, for media reader Bay 4: 3.5", 1" high, internal, for disk Bay 5: 3.5", 1" high, internal, for disk
Media reader Optical Drive(s) Onboard SATA	Media: 29-in-1 Media card reader on selected models, internal USB 2.0 DVD, DVD±RW, or Blu-ray, depending on model 3.5" SATA: SATA 6.0Gb/s, 7200 rpm, 3.5" 2.5" SATA: SATA 6.0Gb/s, 10000 rpm, 2.5" SSD: SOID Solid State Drive, SATA 6.0Gb/s, 2.5"	Slot 1: half-length, full-height, PCle* x16 (75w max, near CPU) * PCle 2.0 x16 on Core i3/Pentium/Celeron models, PCle 3.0 x16 on Xeon/Core i5/Core i7 models Slot 2: half-length, full-height, PCle 2.0 x1
Onboard SAS	Two SATA 6.0Gb/s connectors (red), two SATA 3.0Gb/s connectors (orange), RAID 0, 1 support via Intel C216 Chipset None	Slot 3: half-length, full-height, 32-bit PCI 2.3 Slot 4: half-length, full-height, 32-bit PCI 2.3
Chipset	Intel C216 Chipset	Intel AMT Intel AMT supported on model(s) with Xeon processor
Front ports Rear ports	Two USB 2.0, microphone (3.5mm), headphone (3.5mm) Two USB 2.0, four USB 3.0 (blue), one serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in), one analog VGA DB-15 connector, one DisplayPort connector (Onboard VGA and DisplayPort™ are functional when the following processors are used: Xeon E3-12X5V2, Core i7, i5, i3, Pentium, and Celeron processors) PS/2 models: additional PS/2 keyboard and mouse connectors	
Audio Speaker Ethernet Security chip	via PS/2 rear I/O cable No onboard 1394 ports; 1394 models: additional FireWire PCle adapter, 1394a-2000, 400Mbps, two 6-pin ports on rear High Definition (HD) Audio, Realtek® ALC662 codec Internal speaker for business audio One onboard gigabit ethernet, Intel 82579 STMicroelectronics ST33ZP24 Trusted Platform Module (TPM), TCG 1.2-compliant	Preloaded applications ⁵ (only some listed) -Windows 7 models • Rescue and Recovery® • Norton™ Internet Security (30 days of virus definitions) • Adobe® Reader® • Microsoft® Office 2013 preloaded; purchase product key to activate • Corel® WinDVD® (DVD±RW model(s)) • Ulead® DVD MovieFactory® (DVD±RW model(s))
Keyboard Mouse Power supply	Preferred Pro USB Keyboard (USB connector), 104-key, black Optical Wheel Mouse (USB connector), black 280 watts with variable speed fan, autosensing, 85% PSU, Climate Savers® Computing Bronze, 80 PLUS® Bronze qualified	-Windows 8 models • Evernote® • Norton Internet Security (30 days of virus definitions) • Norton Studio
Eco-Label and environmental certifications	GREENGUARD® certified RoHS-compliant EPEAT™ Gold rating ENERGY STAR 5.2-compliant	 Skype™ Microsoft Office 2013 preloaded; purchase product key to activate Cyberlink Power2Go (DVD±RW model(s)) Cyberlink PowerProducer (DVD±RW model(s))
ISV certifications	See the latest list of ISV certifications at www.lenovo.com/support/ISV	SECURITY
ThinkVantage Limited Warranty	Supports ThinkVantage® technologies 3-year parts and labor, more Lenovo® services see S-TS sheet	Security chip (see information on left) 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

 Administrator password Boot sequence control Boot without keyboard, mouse
Serial port I/O control

USB port disablement (front or all/individual)
Chassis intrusion switch available on selected model(s) More compatible accessories, please see O-DEM sheet

ThinkStation® E31 Tower (2555) - TopSeller (March 2013) - V

Type- model ¹	Processor	Memory (MHz/ECC)	Memory DIMMs	Pre-conf RAID	Drive(s)	Media reader	SATA optical	Graphics adapter(s)	1394 adptr	PS/2 rear I/O	Chassis intrusion switch	
2555-ELU	Xeon E3-1230V2	1600MHz Non-ECC	1x4GB	No	1x1TB 3.5" SATA	Media	DVD±RW	Quadro K2000	No	No	Switch	Win8 Pro64
2555-EMU	Xeon E3-1230V2	1600MHz Non-ECC	1x4GB	No	1x1TB 3.5" SATA	Media	DVD±RW	Quadro K2000	No	No	Switch	Win7 Pro64(DG)
2555-ENU	Core i3-3220	1600MHz Non-ECC	1x4GB	No	1x128GB SSD	Media	DVD±RW	Intel HD 2500	No	No	Switch	Win7 Pro64(DG)
2555-EPU	Core i3-3220	1600MHz Non-ECC	1x4GB	No	1x128GB SSD	Media	DVD±RW	Intel HD 2500	No	No	Switch	Win8 Pro64
2555-EQU	Xeon E3-1245V2	1600MHz Non-ECC	1x4GB	No	1x180GB SSD	Media	DVD±RW	Quadro 410	No	No	Switch	Win8 Pro64
2555-ERU	Xeon E3-1275V2	1600MHz Non-ECC	1x4GB	No	1x256GB SSD	Media	DVD±RW	Quadro K600	No	No	Switch	Win7 Pro64(DG)
2555-ESU	Xeon E3-1275V2	1600MHz Non-ECC	1x4GB	No	1x256GB SSD	Media	DVD±RW	Quadro K600	No	No	Switch	Win8 Pro64
2555-ETU	Core i7-3770	1600MHz Non-ECC	1x4GB	No	1x1TB 3.5" SATA	Media	DVD±RW	Quadro K2000	No	No	Switch	Win8 Pro64

Model in italics shows that this is a Global Model Win7 Pro64(DG) = Windows 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit Intel® Core™ i3-3220 processor (2C/4T, 3.3GHz, 3MB Cache), Tower Processor integrated Intel HD Graphics 2500, DDR3 memory controller (up to 1600MHz Raven black color; metal case Intel Core i7-3770 processor (4C/8T, 3.4GHz, 8MB Cache), 6.9"W x 17.0"D x 16.7"H (with handle) integrated Intel HD Graphics 4000,
Turbo Boost 2.0 (up to 3.9GHz), DDR3 memory controller (up to 1600MHz)
Intel Xeon® E3-1230V2 processor (4C/8T, 3.3GHz, 8MB Cache), • 175mm W x 431mm D x 425mm H optical 27.56 lb (12.5kg) max configuration (2) 25-liter Turbo Boost 2.0 (up to 3.7GHz), DDR3 memory controller (up to 1600MHz)

Intel Xeon E3-1245V2 processor (4C/8T, 3.4GHz, 8MB Cache),

Turbo Boost 2.0 (up to 3.8GHz), integrated Intel HD Graphics P4000,

DDR3 memory controller (up to 1600MHz) Removable handle on top front disk Toolless side cover removal ----Toolless disk and optical drive removal Toolless adapter retention Intel Xeon E3-1275V2 processor (4C/8T, 3.5GHz, 8MB Cache), Turbo Boost 2.0 (up to 3.9GHz), integrated Intel HD Graphics P4000, Illuminated front icons · Recessed power button DDR3 memory controller (up to 1600MHz) Implementation One LGA1155 socket Bay 1: 5.25", 1.6" high, access, Bay 2: 5.25", 1.6" high, access, Pay 2: 5.25", 1.6" high, access, Pay 2: 5.25", 1.8" high, access, Pay 2: 5.25", 1.6" high, access, Pay 2: 5.25", 1.5" high, access, for optical 32GB max, UDIMM, PC3-12800 1600MHz DDR3, ECC or non-ECC, Memory open four 240-pin DIMM sockets; Bay 3: 3.5", 1" high, Bay 4: 3.5", 1" high, Bay 5: 3.5", 1" high, for media reader Additional memory · Actual memory operating speed depends on processor memory internal, for disk disclaimers controller speed, installed memory speed, and quantity of memory DIMMs for disk internal. • Mixing of ECC and non-ECC memory is not supported Some: Intel HD Graphics in processor, uses main memory, works along with discrete graphics to support multi-display; (detailed graphics model name please see Processor section, Slot 1: half-length, full-height, PCIe* x16 (75w max, near CPU) Graphics * PCIe 2.0 x16 on Core i3/Pentium/Celeron models, PCIe 3.0 connector information please see Rear ports section)

Some: NVIDIA® Quadro® 410, PCle x16 adapter, 512MB, one DisplayPort, one dual-link DVI-I, 37W

Some: NVIDIA Quadro K600, PCle x16 adapter, 1GB, x16 on Xeon/Core i5/Core i7 models Slot 2: half-length, full-height, PCIe 2.0 x1 Slot 3: half-length, full-height, 32-bit PCI 2.3 Slot 4: half-length, full-height, 32-bit PCI 2.3 one DisplayPort, one dual-link DVI-I, 41W Intel AMT Some: NVIDIA Quadro K2000, PCle x16 adapter, 2GB, Intel AMT supported on model(s) with Xeon processor two DisplayPort, one dual-link DVI-I, 51W Media reader 29-in-1 Media card reader in selected models, internal USB 2.0 Preloaded operating system²⁰ DVD, DVD±RW, or Blu-ray, depending on model Optical Some: Windows® 7 Professional 64 3.5" SATA: 2.5" SATA: Drive(s) SATA 6.0Gb/s, 7200 rpm, 3.5' Some: Windows 7 Professional 64 SATA 6.0Gb/s, 10000 rpm, 2.5" Solid State Drive, SATA 6.0Gb/s, 2.5" preinstalled through downgrade SSD: rights in Windows 8 Pro 64-bit Onboard SATA Two SATA 6.0Gb/s connectors (red), two SATA 3.0Gb/s connectors (orange), Windows 8 Pro 64-bit RAID 0, 1 support via Intel C216 Chipset Preloaded applications⁵ (only some listed) Onboard SAS None -Windows 7 models Chipset Intel C216 Chipset Rescue and Recovery® Norton™ Internet Security (30 days of virus definitions) Front ports Two USB 2.0, microphone (3.5mm), headphone (3.5mm) Two USB 2.0, four USB 3.0 (blue), one serial (9-pin), one ethernet (RJ-45), three Adobe® Reader® Rear ports analog audio ports (line-in, line-out, mic-in), one analog VGA DB-15 connector, Microsoft® Office 2013 preloaded; one DisplayPort connector purchase product key to activate Onboard VGA and DisplayPort™ are functional when the following processors are used: Xeon E3-12X5V2, Core i7, i5, i3, Pentium, and Celeron processors) Corel® WinDVD® (DVD±RW model(s)) Ulead® DVD MovieFactory® (DVD±RW model(s)) PS/2 models: additional PS/2 keyboard and mouse connectors -Windows 8 models via PS/2 rear I/O cable Evernote^o No onboard 1394 ports; IEEE 1394 adptr · Norton Internet Security (30 days of virus definitions) 1394 models: additional FireWire PCle adapter, 1394a-2000, Norton Studio 400Mbps, two 6-pin ports on rear Skype™ Audio High Definition (HD) Audio, Realtek® ALC662 codec Microsoft Office 2013 preloaded; purchase product key to activate Speaker Internal speaker for business audio Cyberlink Power2Go (DVD±RW model(s)) Ethernet One onboard gigabit ethernet, Intel 82579 Cyberlink PowerProducer (DVD±RW model(s)) Security chip STMicroelectronics ST33ZP24 Trusted Platform Module (TPM), TCG 1.2-compliant SECURITY Keyboard Preferred Pro USB Keyboard (USB connector), 104-key, black Security chip (see information on left) Mouse Optical Wheel Mouse (USB connector), black 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) 280 watts with variable speed fan, autosensing, 85% PSU, Climate Savers® Computing Bronze, 80 PLUS® Bronze qualified Power supply Eco-Label and GREENGUARD® certified RoHS-compliant EPEAT™ Gold rating environmental Power-on password certifications Administrator password **ENERGY STAR 5.2-compliant** Boot sequence control ISV certifications See the latest list of ISV certifications at www.lenovo.com/support/ISV Boot without keyboard, mouse Supports ThinkVantage® technologies ThinkVantage Serial port I/O control

3-year parts and labor, more Lenovo® services see S-TS sheet

Limited Warranty

USB port disablement (front or all/individual)

Chas'sis intrusion switch available on selected model(s)
 More compatible accessories, please see O-DEM sheet

ThinkStation® E31 Tower (2555) - TopSeller (March 2013) - VI

Type- model ¹	Processor	Memory (MHz/ECC)	Memory DIMMs	Pre-conf RAID	Drive(s)	Media reader	SATA optical	Graphics adapter(s)	1394 adptr	PS/2 rear I/O	Chassis intrusion switch	
2555-EUU	Core i7-3770	1600MHz Non-ECC	1x4GB	No	1x1TB 3.5" SATA	Media	DVD±RW	Quadro K2000	No	No	Switch	Win7 Pro64(DG)
2555-EVU	Xeon E3-1275V2	1600MHz Non-ECC	1x4GB	No	1x1TB 3.5" SATA	Media	DVD±RW	Quadro K2000	No	No	Switch	Win7 Pro64(DG)
2555-EWU	Xeon E3-1275V2	1600MHz Non-ECC	1x4GB	No	1x1TB 3.5" SATA	Media	DVD±RW	Quadro K2000	No	No	Switch	Win8 Pro64
2555-EYU	Xeon E3-1230V2	1600MHz Non-ECC	1x4GB	No	1x128GB SSD	Media	DVD±RW	Quadro K600	No	No	Switch	Win8 Pro64
2555-EZU	Xeon E3-1230V2	1600MHz Non-ECC	1x4GB	No	1x128GB SSD	Media	DVD±RW	Quadro K600	No	No	Switch	Win7 Pro64(DG)
2555-F1U	Core i7-3770	1600MHz Non-ECC	1x4GB	No	1x180GB SSD	Media	DVD±RW	Quadro K2000	No	No	Switch	Win7 Pro64(DG)
2555-F2U	Core i7-3770	1600MHz Non-ECC	1x4GB	No	1x180GB SSD	Media	DVD±RW	Quadro K2000	No	No	Switch	Win8 Pro64

- Model in italics shows that this is a Global Model
 Win7 Pro64(DG) = Windows 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit

2 $Win7 Pro64(DG) = Wii$	ndows 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit	
Processor Implementation Memory	Intel® Core™ i7-3770 processor (4C/8T, 3.4GHz, 8MB Cache), integrated Intel HD Graphics 4000, Turbo Boost 2.0 (up to 3.9GHz), DDR3 memory controller (up to 1600MHz) Intel Xeon® E3-1230V2 processor (4C/8T, 3.3GHz, 8MB Cache), Turbo Boost 2.0 (up to 3.7GHz), DDR3 memory controller (up to 1600MHz) Intel Xeon E3-1275V2 processor (4C/8T, 3.5GHz, 8MB Cache), Turbo Boost 2.0 (up to 3.9GHz), integrated Intel HD Graphics P4000, DDR3 memory controller (up to 1600MHz) One LGA1155 socket 32GB max, UDIMM, PC3-12800 1600MHz DDR3, ECC or non-ECC,	Paven black color; metal case 6.9"W x 17.0"D x 16.7"H (with handle) 175mm W x 431mm D x 425mm H 27.56 lb (12.5kg) max configuration 25-liter Removable handle on top front Toolless side cover removal Toolless disk and optical drive removal Toolless adapter retention
•	four 240-pin DIMM sockets; • Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs • Mixing of ECC and non-ECC memory is not supported	Illuminated front icons Recessed power button
Graphics	Some: NVIDIA® Quadro® K600, PCIe x16 adapter, 1GB, one DisplayPort, one dual-link DVI-I, 41W Some: NVIDIA Quadro K2000, PCIe x16 adapter, 2GB, two DisplayPort, one dual-link DVI-I, 51W	Bay 1: 5.25", 1.6" high, access, open Bay 2: 5.25", 1.6" high, access, open Bay 3: 3.5", 1" high, access, for media reader Bay 4: 3.5", 1" high, internal, for disk Bay 5: 3.5", 1" high, internal, for disk
Media reader Optical Drive(s) Onboard SATA Onboard SAS	29-in-1 Media card reader in selected models, internal USB 2.0 DVD, DVD±RW, or Blu-ray, depending on model 3.5" SATA: SATA 6.0Gb/s, 7200 rpm, 3.5" 2.5" SATA: SATA 6.0Gb/s, 10000 rpm, 2.5" SSD: Solid State Drive, SATA 6.0Gb/s, 2.5" Two SATA 6.0Gb/s connectors (red), two SATA 3.0Gb/s connectors (orange), RAID 0, 1 support via Intel C216 Chipset None	Slot 1: half-length, full-height, PCIe* x16 (75w max, near CPU) * PCIe 2.0 x16 on Core i3/Pentium/Celeron models, PCIe 3.0 x16 on Xeon/Core i5/Core i7 models Slot 2: half-length, full-height, PCIe 2.0 x1 Slot 3: half-length, full-height, 32-bit PCI 2.3 Slot 4: half-length, full-height, 32-bit PCI 2.3
Chipset	Intel C216 Chipset	Intel AMT
Front ports Rear ports	Two USB 2.0, microphone (3.5mm), headphone (3.5mm) Two USB 2.0, four USB 3.0 (blue), one serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in), one analog VGA DB-15 connector, one DisplayPort connector (Onboard VGA and DisplayPort™ are functional when the following processors are used: Xeon E3-12X5V2, Core i7, i5, i3, Pentium, and Celeron processors) PS/2 models: additional PS/2 keyboard and mouse connectors	Intel AMT supported on model(s) with Xeon processor Preloaded operating system ²⁰ Some: Windows® 7 Professional 64 Some: Windows 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit Some: Windows 8 Pro 64-bit
Audio Speaker Ethernet Security chip	via PS/2 rear I/O cable No onboard 1394 ports; 1394 models: additional FireWire PCle adapter, 1394a-2000, 400Mbps, two 6-pin ports on rear High Definition (HD) Audio, Realtek® ALC662 codec Internal speaker for business audio One onboard gigabit ethernet, Intel 82579 STMicroelectronics ST33ZP24 Trusted Platform Module (TPM), TCG 1.2-compliant	Preloaded applications ⁵ (only some listed) -Windows 7 models • Rescue and Recovery® • Norton™ Internet Security (30 days of virus definitions) • Adobe® Reader® • Microsoft® Office 2013 preloaded; purchase product key to activate • Corel® WinDVD® (DVD±RW model(s)) • Ulead® DVD MovieFactory® (DVD±RW model(s))
Keyboard Mouse Power supply	Preferred Pro USB Keyboard (USB connector), 104-key, black Optical Wheel Mouse (USB connector), black 280 watts with variable speed fan, autosensing, 85% PSU, Climate Savers® Computing Bronze, 80 PLUS® Bronze qualified	-Windows 8 models • Evernote® • Norton Internet Security (30 days of virus definitions) • Norton Studio
Eco-Label and environmental certifications	GREENGUARD® certified RoHS-compliant EPEAT™ Gold rating ENERGY STAR 5.2-compliant	Skype TM Microsoft Office 2013 preloaded; purchase product key to activate Cyberlink Power2Go (DVD±RW model(s)) Cyberlink PowerProducer (DVD±RW model(s))
ISV certifications	See the latest list of ISV certifications at www.lenovo.com/support/ISV	SECURITY
ThinkVantage Limited Warranty	Supports ThinkVantage® technologies 3-year parts and labor, more Lenovo® services see S-TS sheet	Security chip (see information on left) 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

· Administrator password Boot sequence control Boot without keyboard, mouse
Serial port I/O control

USB port disablement (front or all/individual)
Chassis intrusion switch available on selected model(s) More compatible accessories, please see O-DEM sheet

ThinkStation® E31 Tower (2555) - TopSeller (May 2013)

Type- model ¹	Processor	Memory (MHz/ECC)	Memory DIMMs	Pre-conf RAID	Drive(s)	Media reader	SATA optical	Graphics adapter(s)	1394 adptr	PS/2 rear I/O	Chassis intrusion switch	
2555-F3U	Xeon E3-1280V2	1600MHz ECC	8GBx1	No	1x1TB 3.5" SATA	Media	DVD±RW	Quadro K600	No	No	Switch	Win7 Pro64(DG)
2555-F4U	Xeon E3-1280V2	1600MHz ECC	8GBx1	No	1x1TB 3.5" SATA	Media	DVD±RW	Quadro K600	No	No	Switch	Win8 Pro64
2555-F5U	Xeon E3-1245V2	1600MHz ECC	8GBx1	No	1x1TB 3.5" SATA	Media	DVD±RW	Quadro 410	No	No	Switch	Win8 Pro64
2555-F6U	Xeon E3-1245V2	1600MHz ECC	8GBx1	No	1x1TB 3.5" SATA	Media	DVD±RW	Quadro 410	No	No	Switch	Win7 Pro64(DG)
2555-F7U	Xeon E3-1280V2	1600MHz ECC	8GBx1	No	1x1TB 3.5" SATA	Media	DVD±RW	Quadro K2000	No	No	Switch	Win7 Pro64(DG)
2555-F8U	Xeon E3-1280V2	1600MHz ECC	8GBx1	No	1x1TB 3.5" SATA	Media	DVD±RW	Quadro K2000	No	No	Switch	Win8 Pro64
2555-F9U	Xeon E3-1290V2	1600MHz ECC	8GBx1	No	1x1TB 3.5" SATA	Media	DVD±RW	Quadro K2000	No	No	Switch	Win8 Pro64
2555-FAU	Xeon E3-1290V2	1600MHz ECC	8GBx1	No	1x1TB 3.5" SATA	Media	DVD±RW	Quadro K2000	No	No	Switch	Win7 Pro64(DG)

1 Model in italics shows 2 Win7 Pro64(DG) = Wi	that this is a Global Model ndows 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit	
Processor	Intel® Xeon® E3-1245V2 processor (4C/8T, 3.4GHz, 8MB Cache), Turbo Boost 2.0 (up to 3.8GHz), integrated Intel HD Graphics P4000, DDR3 memory controller (up to 1600MHz) Intel Xeon E3-1280V2 processor (4C/8T, 3.6GHz, 8MB Cache), Turbo Boost 2.0 (up to 4.0GHz), DDR3 memory controller (up to 1600MHz) Intel Xeon E3-1290V2 processor (4C/8T, 3.7GHz, 8MB Cache), Turbo Boost 2.0 (up to 4.1GHz), DDR3 memory controller (up to 1600MHz) One LGA1155 socket	Prover Raven black color; metal case 6.9"W x 17.0"D x 16.7"H (with handle) 175mm W x 431mm D x 425mm H 27.56 lb (12.5kg) max configuration 25-liter Removable handle on top front Toolless side cover removal
Memory	32GB max, UDIMM, PC3-12800 1600MHz DDR3, ECC or non-ECC,	Toolless side cover removal Toolless disk and optical drive removal
Wemory	four 240-pin DIMM sockets;	Toolless adapter retention
Additional memory disclaimers	Actual memory operating speed depends on processor memory	Illuminated front icons Recessed power button
uisciaimers	controller speed, installed memory speed, and quantity of memory DIMMs • Mixing of ECC and non-ECC memory is not supported	<u>5</u>
Graphics	Some: Intel HD Graphics in processor, uses main memory, works along with discrete graphics to support multi-display; (detailed graphics model name please see Processor section, connector information please see Rear ports section) Some: NVIDIA® Quadro® 410, PCIe x16 adapter, 512MB, one DisplayPort™, one dual-link DVI-I, 37W Some: NVIDIA® Quadro K600, PCIe x16 adapter, 1GB	Bay 1: 5.25", 1.6" high, access, for optical Bay 2: 5.25", 1.6" high, access, open Bay 3: 3.5", 1" high, access, for media reader Bay 4: 3.5", 1" high, internal, for disk Bay 5: 3.5", 1" high, internal, for disk
	Some: NVIDIA Quadro K600, PCle x16 adapter, 1GB, one DisplayPort, one dual-link DVI-1, 41W Some: NVIDIA Quadro K2000, PCle x16 adapter, 2GB,	Slot 1: half-length, full-height, PCle* x16 (75w max, near CPU) * PCle 2.0 x16 on Core i3/Pentium/Celeron models, PCle 3.0 x16 on Xeon/Core i5/Core i7 models
Media reader	two DisplayPort, one dual-link DVI-I, 51W 29-in-1 Media card reader in selected models, internal USB 2.0	Slot 2: half-length, full-height, PCIe 2.0 x1
Optical	DVD, DVD±RW, or Blu-ray, depending on model	Slot 3: half-length, full-height, 32-bit PCI 2.3 Slot 4: half-length, full-height, 32-bit PCI 2.3
Drive(s)	3.5" SATA: SATA 6.0Gb/s, 7200 rpm, 3.5" 2.5" SATA: SATA 6.0Gb/s, 10000 rpm, 2.5"	Intel AMT
	SSD: Solid State Drive, SATA 6.0Gb/s, 2.5"	Intel AMT supported on model(s) with Xeon processor
Onboard SATA	Two SATA 6.0Gb/s connectors (red), two SATA 3.0Gb/s connectors (orange), RAID 0, 1 support via Intel C216 Chipset	Preloaded operating system ²⁰
Onboard SAS	None	Some: Windows® 7 Professional 64
Chipset	Intel C216 Chipset	Some: Windows 7 Professional 64 preinstalled through downgrade
Front ports Rear ports	Two USB 2.0, microphone (3.5mm), headphone (3.5mm) Two USB 2.0, four USB 3.0 (blue), one serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in), one analog VGA DB-15 connector,	rights in Windows 8 Pro 64-bit
	one DisplayPort connector	Preloaded applications ⁵ (only some listed)
	(Onboard VGA and DisplayPort [™] are functional when the following processors are used: Xeon E3-12X5V2, Core i7, i5, i3, Pentium, and Celeron processors) PS/2 models: additional PS/2 keyboard and mouse connectors via PS/2 rear I/O cable	-Windows 7 models • Rescue and Recovery® • Norton™ Internet Security (30 days of virus definitions) • Adobe® Reader®
IEEE 1394 adptr	No onboard 1394 ports; 1394 models: additional FireWire PCIe adapter, 1394a-2000, 400Mbps, two 6-pin ports on rear	Microsoft® Office 2013 preloaded; purchase product key to activate Corel®WinDVD® (DVD±RW model(s))
Audio Speaker	High Definition (HD) Audio, Realtek® ALC662 codec Internal speaker for business audio	Ulead® DVD MovieFactory® (DVD±RW model(s)) -Windows 8 models
Ethernet Security chip	One onboard gigabit ethernet, Intel 82579 STMicroelectronics ST33ZP24 Trusted Platform Module (TPM),	Evernote® Norton Internet Security (30 days of virus definitions) Norton Studio
Keyboard	TCG 1.2-compliant Preferred Pro USB Keyboard (USB connector), 104-key, black	- Skype™
Mouse	Optical Wheel Mouse (USB connector), black	Microsoft Office 2013 preloaded; purchase product key to activate
Power supply	280 watts with variable speed fan, autosensing, 85% PSU, Climate Savers® Computing Bronze, 80 PLUS® Bronze qualified	 purchase product key to activate Cyberlink Power2Go (DVD±RW model(s)) Cyberlink PowerProducer (DVD±RW model(s))
Eco-Label and	GREENGUARD® certified	SECURITY
environmental certifications	RoHS-compliant EPEAT™ Gold rating ENERGY STAR 5.2-compliant	Security chip (see information on left) Padlock loop (in rear for opt padlock;
ISV certifications	See the latest list of ISV certifications at www.lenovo.com/support/ISV	padlock prohibits side cover removal) • Security slot (in rear for optional
ThinkVantage	Supports ThinkVantage® technologies	Kensington® Microsaver® cable;
Limited Warranty	3-year parts and labor, more Lenovo® services see S-TS sheet	prohibits side cover removal) Power-on password Administrator password

· Administrator password Boot sequence control

Boot sequence control
Boot without keyboard, mouse
Serial port I/O control
USB port disablement (front or all/individual)
Chassis intrusion switch available on selected model(s)

ThinkStation® E31 Tower (2552)

Type- model Proce	esor	Memory (MHz/ECC)	Memory DIMMs	Pre-conf RAID	Disk(s)	Media reader	SATA optical	Graphics adapter(s)	1394	Global	Chassis intrusion switch	PS/2 rear I/O	Win7 preload
2552-15U Core i3-2		1600MHz Non-ECC		No	1x500GB SATA	Media		Quadro 2000	No	No	Switch	real I/U	Pro 64
2552-16U Core i3-2	130	1600MHz Non-ECC	1x4GB	No	1x500GB SATA	Media	DVD±RW	Intel HD 2000	No	No	Switch		Pro 64
2552-23U Xeon E3- 2552-24U Xeon E3-			1x4GB	No	1x500GB SATA	Media		Intel HD P4000		No	Switch		Pro 64
2552-240 Xeon E3-			1x4GB 1x4GB	No No	1x500GB SATA 1x500GB SATA			Quadro 2000 Quadro 400	No No	No No	Switch Switch		Pro 64 Pro 64
2552-26U Xeon E3-			1x4GB	No	1x500GB SATA	Media		Intel HD P4000		No	Switch		Pro 64
2552-27U Xeon E3-			1x4GB	No	1x500GB SATA			Quadro 400	No	No	Switch		Pro 64
2552-29U Xeon E3- 2552-31U Xeon E3-			1x4GB 1x4GB	No No	1x500GB SATA 1x500GB SATA			Quadro 2000 Intel HD P4000	No No	No No	Switch Switch		Pro 64 Pro 64
2552-32U Xeon E3-	-1275V2	1600MHz ECC	1x4GB	No	1x500GB SATA	Media	DVD±RW	Quadro 400	No	No	Switch		Pro 64
2552-33U Xeon E3-			1x4GB 1x4GB	No	1x500GB SATA			Quadro 600 Quadro 2000	No	No	Switch	DC/O	Pro 64
2552-34U Xeon E3-		Core [™] i3-2120 prod		No	1x500GB SATA		DVD±NVV	Quadio 2000	No	No		PS/2	Pro 64
Processor	33MHz) 33MHz) MHz)	optical 2 3 disk noon	6.9"\175r27.525-liRemToolToolIllum	W x 17.0 mm W x 6 lb (12 ter lovable less side less disl less ada inated f	c color; me: 0"D x 16.7' 431mm D .5kg) max handle on e cover rer k and optic apter reten front icons ower butto	"H (with x 425m; configuration front moval and drive tion	m H ation						
Implementation		memory controller (up to 160	OMHZ)				Bay 1: 5.25", 1	.6" hig	h, acces	ss, for o	ptical	
Implementation		GA1155 socket max, UDIMM , PC3-	12000 16		D2 ECC or non	ECC		Bay 2: 5.25", 1					
Memory		0-pin DIMM sockets		OUIVINZ DL	rks, ECC or non	-ECC,		Bay 3: 3.5", 1 Bay 4: 3.5", 1				nedia rea lisk	ader
		I memory operating sp		nds on proce	essor memory			Bay 5: 3.5", 1					
disclaimers		ller speed, installed m				ИМs		Clat debalf land		ا فعاده ا	001-*40		
Graphics		g of ECC and non-ECC Intel HD Graphics				سمام مياس		Slot 1: half-leng (75w max, near C	tn, tuli- P <i>U)</i>	neignt, i	PCIe" X I 6		
	Some:	Xeon E3-1225V2/1. Core i3-2120/2130: Pentium/Celeron: (connector informat NVIDIA® Quadro® one DisplayPort™, NVIDIA Quadro 60 one DisplayPort, on NVIDIA Quadro 20	tion pleas 400, PCIe one dual- 0, PCIe x ie dual-lin	Integrated		Slot 2: half-length, full-height, PCIe 2.0 x1 Slot 3: half-length, full-height, 32-bit PCI 2.3 Slot 4: half-length, full-height, 32-bit PCI 2.3 Intel AMT Intel AMT supported on model(s) with Xeon processor							
		two DisplayPort, on						Preloaded operating system ²⁰					
Media reader		29-in-1 Media card						• Windows® 7 F		•			
Optical Disk(s)		Multi-Burner DL DVI /500GB/1TB/2TB/3				3.5"		Preloade	ed app	lication	ns⁵ <i>(only s</i>	ome lis	ted)
Dior(o)	150GB	/300GB/600GB SA	TA:	SATA 6.0	Gb/s, 10000 rpm	ո, 2.5"		Rescue and F	Recove	ry®	0 4 6.	.:a ala£:	
0 0		/180GB/256GB SS			te Drive, SATA 6.			 Norton® Interes Adobe® Read 		curity (3	o days of v	/irus aeti	nitions)
Onboard SATA		TA 6.0Gb/s connec , 1 support via Intel			3.0Gb/s connec	tors (ora	ange),	 Microsoft® Of 	fice 20				
Onboard SAS	None	, i support via into	0210 01	прост				purchase prod					
Chipset	Intel C	216 Chipset						 Corel® WinDV Ulead® DVD N 	אט) ע IovieF	actorv®	(DVD±RW	/ model(s	s))
Front ports		BB 2.0, microphone								SECURI	•		- //
Rear ports	analog one Dis (Onboa are use Celeror	SB 2.0, four USB 3.0 audio ports (line-in, splayPort connector and VGA and Display ed: Xeon E3-1225V2 nodels: additional F via PS/2 rei	, line-out, /Port are 2/1245V2 PS/2 keyb	mic-in), or functional /1275V2, C	when the followir Core i3-2120/213	B-15 con ng proce 0, Pentiu	nnector,	Security chip Padlock loop padlock prohi Security slot Kensington® prohibits side Power-on pas	(see ir (in rea bits sid (in rea Micros cover ssword	nformati r for opt de cover for opti aver® c remova	on on left) padlock; removal) ional able;		
IEEE 1394 adptr	No onb 1394 m	oard 1394 ports; nodels: additional Fi 400Mbps, tv	reWire P	Cle adapte			Administrator passwordBoot sequence controlBoot without keyboard, mouse						
Audio	High De	400אוטסא, נע efinition (HD) Audio						 Serial port I/C) contr	ol		vid. :=!\	
Speaker	Interna	l speaker for busine	ss audio					USB port disaChassis intru					model(s
Ethernet		board gigabit ether						Chaoolo Inilu				22,20100	
Security chip	TCG 1.	oelectronics ST33Z 2-compliant				'		Please visit ww	w.leno	vo.com/	ifications /support/IS	SV	
Keyboard Mouse		ed Pro USB Keyboa Wheel Mouse (USI			, 104-key, black			GREENGUARI		fied			
Power supply	280 wa	tts with variable spe	ed fan, a	utosensing				RoHS-compliar EPEAT™ Gold					
		e Savers [®] Comput				ified		ENERGY STAF		omplian	nt		
Limited Warranty	3-year	parts and labor, mo	re Lenov	o® services	see S-TS sheet			More compatib	e acce	essories	, please se	e O-DE	M sheet

ThinkStation® E31 Tower (2552) - June 5, 2012

											Chassis		
Type-		Memory	Memory	Pre-conf		Media	SATA	Graphics	1394		intrusion	PS/2	Win7
model	Processor	(MHz/ECC)	DIMMs	RAID	Disk(s)	reader	optical	adapter(s)	adptr	Global	switch	rear I/O	preload
2552-14U	Core i7-3770	1600MHz Non-ECC	1x4GB	No	1x1TB SATA		DVD±RW	Quadro 600	No	No		PS/2	Pro 64
2552-18U	Core i5-3450	1600MHz Non-ECC	1x4GB	No	1x500GB SATA	Media	DVD±RW	Quadro 2000	No	No	Switch		Pro 64
2552-19U	Core i5-3550	1600MHz Non-ECC	1x4GB	No	1x500GB SATA	Media	DVD±RW	Intel HD 2500	No	No	Switch		Pro 64
2552-21U	Core i5-3550	1600MHz Non-ECC	1x4GB	No	1x500GB SATA	Media	DVD±RW	Quadro 400	No	No	Switch		Pro 64
2552-22U	Core i7-3770	1600MHz Non-ECC	1x4GB	No	1x500GB SATA	Media	DVD±RW	Quadro 2000	No	No	Switch		Pro 64

Implementation Memory Additional memory disclaimers Graphics	Intel® Core™ i5-3450 processor (4C/4T, 3.1GHz, 6MB Cache), integrated Intel HD Graphics 2500, Turbo Boost 2.0 (up to 3.5GHz), DDR3 memory controller (up to 1600MHz) Intel Core i5-3550 processor (4C/4T, 3.3GHz, 6MB Cache), integrated Intel HD Graphics 2500, Turbo Boost 2.0 (up to 3.7GHz), DDR3 memory controller (up to 1600MHz) Intel Core i7-3770 processor (4C/8T, 3.4GHz, 8MB Cache), integrated Intel HD Graphics 4000, Turbo Boost 2.0 (up to 3.9GHz), DDR3 memory controller (up to 1600MHz) One LGA1155 socket 32GB max, UDIMM, PC3-12800 1600MHz DDR3, ECC or non-ECC, four 240-pin DIMM sockets; • Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs • Mixing of ECC and non-ECC memory is not supported Some: Intel HD Graphics in processor, uses main memory, works along with	• Raven black color; metal case • 6.9"W x 17.0"D x 16.7"H (with handle) • 175mm W x 431mm D x 425mm H • 27.56 lb (12.5kg) max configuration • 25-liter • Removable handle on top front • Toolless disk and optical drive removal • Toolless disk and optical drive removal • Toolless adapter retention • Illuminated front icons • Recessed power button Bay 1: 5.25", 1.6" high, access, for optical Bay 2: 5.25", 1.6" high, access, open
С партись	discrete graphics to support multi-display; Xeon E3-1225V2/1245V2/1275V2: Intel HD Graphics P4000 Core i7-3770: Intel HD Graphics 4000 Core i5-3450/3470/3550: Intel HD Graphics 2500 Core i3-2120/2130: Intel HD Graphics 2000 Pentium/Celeron: Intel HD Graphics 2000 Pentium/Celeron: Intel HD Graphics (connector information please see Rear ports section) Some: NVIDIA® Quadro® 400, PCle x16 adapter, 512MB, one DisplayPort™, one dual-link DVI-I, 32W Some: NVIDIA Quadro 600, PCle x16 adapter, 1GB, one DisplayPort, one dual-link DVI-I, 40W Some: NVIDIA Quadro 2000, PCle x16 adapter, 1GB, two DisplayPort, one dual-link DVI-I, 62W	Bay 3: 3.5", 1" high, access, for media reader Bay 4: 3.5", 1" high, internal, for disk Bay 5: 3.5", 1" high, internal, for disk Slot 1: half-length, full-height, PCle* x16 (75w max, near CPU) * PCle 2.0 x16 on Core i3/Pentium/Celeron models, PCle 3.0 x16 on Xeon/Core i5/Core i7 models Slot 2: half-length, full-height, PCle 2.0 x1 Slot 3: half-length, full-height, 32-bit PCl 2.3 Slot 4: half-length, full-height, 32-bit PCl 2.3
Media reader	Media: 29-in-1 Media card reader, internal USB 2.0	Intel AMT
Optical Disk(s) Onboard SATA	Super Multi-Burner DL DVD±RW SATA 1.5Gb/s Drive 250GB/500GB/1TB/2TB/3TB SATA: SATA 6.0Gb/s, 7200 rpm, 3.5" 150GB/300GB/600GB SATA: SATA 6.0Gb/s, 10000 rpm, 2.5" 128GB/180GB/256GB SSD: Solid State Drive, SATA 6.0Gb/s, 2.5" Two SATA 6.0Gb/s connectors (red), two SATA 3.0Gb/s connectors (orange), RAID 0, 1 support via Intel C216 Chipset	Intel AMT supported on model(s) with Xeon processor Preloaded operating system ²⁰ Windows® 7 Professional 64 Preloaded applications ⁵ (only some listed)
Onboard SAS	None	Rescue and Recovery® Norton® Internet Security (30 days of virus definitions)
Front ports Rear ports	Intel C216 Chipset Two USB 2.0, microphone (3.5mm), headphone (3.5mm) Two USB 2.0, four USB 3.0 (blue), one serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in), one analog VGA DB-15 connector, one DisplayPort connector (Onboard VGA and DisplayPort are functional when the following processors are used: Xeon E3-1225V2/1245V2/1275V2, Core i7-3770, Core i5-3450/3550, Core i3-2120/2130, Pentium, and Celeron processors) PS/2 models: additional PS/2 keyboard and mouse connectors via PS/2 rear I/O cable	Adobe® Reader® Microsoft® Office 2013 preloaded; purchase product key to activate Corel® WinDVD® (DVD±RW model(s)) Ulead® DVD MovieFactory® (DVD±RW model(s)) SECURITY Security chip (see information on left) Padlock loop (in rear for opt padlock; padlock prohibits side cover removal)
IEEE 1394 adptr	No onboard 1394 ports; 1394 models: additional FireWire PCIe adapter, 1394a-2000, 400Mbps, two 6-pin ports on rear	Security slot (in rear for optional Kensington® Microsaver® cable; prohibits side cover removal) Prover as proposed.
Audio Speaker Ethernet Security chip	High Definition (HD) Audio, Realtek® ALC662 codec Internal speaker for business audio One onboard gigabit ethernet, Intel 82579 STMicroelectronics ST33ZP24 Trusted Platform Module (TPM), TCG 1.2-compliant	 Power-on password Administrator password Boot sequence control Boot without keyboard, mouse Serial port I/O control USB port disablement (front or all/individual)
Keyboard	Preferred Pro USB Keyboard (USB connector), 104-key, black	Chassis intrusion switch available on selected model(s)
Mouse Power supply	Optical Wheel Mouse (USB connector), black 280 watts with variable speed fan, autosensing, 85% PSU, Climate Savers® Computing Bronze, 80 PLUS® Bronze qualified	ISV certifications Please visit www.lenovo.com/support/ISV
Limited Warranty	3-year parts and labor, more Lenovo® services see S-TS sheet	GREENGUARD® certified RoHS-compliant EPEAT™ Gold rating ENERGY STAR 5.2-compliant More compatible accessories, please see O-DEM sheet

ThinkStation® E31 Tower (2552) - September 2012

											Chassis		
Type-		Memory	Memory	Pre-conf		Media	SATA	Graphics	1394		intrusion	PS/2	Win7
model	Processor	(MHz/ECC)	DIMMs	RAID	Disk(s)	reader	optical	adapter(s)	adptr	Global	switch	rear I/O	preload
2552-B6U	Core i3-2130	1600MHz ECC	1x4GB	No	1x128GB SSD	Media	DVD±RW	Intel HD 2000	No	No	Switch	No	Pro 64
2552-B7U	Core i5-3550	1600MHz Non-ECC	1x4GB	No	1x180GB SSD	Media	DVD±RW	Quadro 400	No	No	Switch	No	Pro 64
2552-B8U	Core i7-3770	1600MHz Non-ECC	1x4GB	No	1x180GB SSD	Media	DVD±RW	Quadro 600	No	No	Switch	No	Pro 64
2552-B9U	E3-1230V2	1600MHz ECC	1x4GB	No	1x180GB SSD	Media	DVD±RW	Quadro 400	No	No	Switch	No	Pro 64
2552-BAU	E3-1245V2	1600MHz ECC	1x4GB	No	1x180GB SSD	Media	DVD±RW	Quadro 400	No	No	Switch	No	Pro 64
2552-BBU	E3-1275V2	1600MHz ECC	1x4GB	No	1x256GB SSD	Media	DVD±RW	Quadro 600	No	No	Switch	No	Pro 64

Processor	Intel® Core™ i3-2130 processor (2C/4T, 3.4GHz, 3MB Cache), integrated Intel HD Graphics 2000, DDR3 memory controller (up to 1333MHz) Intel Core i5-3550 processor (4C/4T, 3.3GHz, 6MB Cache), integrated Intel HD Graphics 2500, Turbo Boost 2.0 (up to 3.7GHz), DDR3 memory controller (up to 1600MHz) Intel Core i7-3770 processor (4C/8T, 3.4GHz, 8MB Cache), integrated Intel HD Graphics 4000, Turbo Boost 2.0 (up to 3.9GHz), DDR3 memory controller (up to 1600MHz) Intel Xeon® E3-1230V2 processor (4C/8T, 3.3GHz, 8MB Cache), Turbo Boost 2.0 (up to 3.7GHz), DDR3 memory controller (up to 1600MHz) Intel Xeon E3-1245V2 processor (4C/8T, 3.4GHz, 8MB Cache), Turbo Boost 2.0 (up to 3.8GHz), integrated Intel HD Graphics P4000, DDR3 memory controller (up to 1600MHz) Intel Xeon E3-1275V2 processor (4C/8T, 3.5GHz, 8MB Cache), Turbo Boost 2.0 (up to 3.9GHz), integrated Intel HD Graphics P4000, DDR3 memory controller (up to 1600MHz) ODR3 memory controller (up to 1600MHz)	Paven black color; metal case 6.9"W x 17.0"D x 16.7"H (with handle) 175mm W x 431mm D x 425mm H 27.56 lb (12.5kg) max configuration 25-liter Removable handle on top front Toolless side cover removal Toolless disk and optical drive removal Toolless adapter retention Illuminated front icons Recessed power button Bay 1: 5.25", 1.6" high, access, for optical Bay 2: 5.25", 1.6" high, access, open
Memory	32GB max, UDIMM, PC3-12800 1600MHz DDR3, ECC or non-ECC,	Bay 3: 3.5", 1" high, access, for media reader Bay 4: 3.5", 1" high, internal, for disk
Additional memory disclaimers	four 240-pin DIMM sockets; • Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs	Bay 5: 3.5", 1" high, internal, for disk
Graphics	Mixing of ECC and non-ECC memory is not supported Some: Intel HD Graphics in processor, uses main memory, works along with discrete graphics to support multi-display; Xeon E3-1225V2/1245V2/1275V2: Intel HD Graphics P4000 Core i7-3770: Intel HD Graphics 4000 Core i5-3450/3470/3550: Intel HD Graphics 2500 Core i3-3220/3240: Intel HD Graphics 2500 Core i3-2120/2130: Intel HD Graphics 2000 Pentium/Celeron: Intel HD Graphics (connector information please see Rear ports section)	(75w max, near CPU) * PCle 2.0 x16 on Core i3/Pentium/Celeron models, PCle 3.0 x16 on Xeon/Core i5/Core i7 models Slot 2: half-length, full-height, PCle 2.0 x1 Slot 3: half-length, full-height, 32-bit PCl 2.3 Slot 4: half-length, full-height, 32-bit PCl 2.3
	Some: NVIDIA® Quadro® 400, PCle x16 adapter, 512MB, one DisplayPort™, one dual-link DVI-I, 32W Some: NVIDIA Quadro 600, PCle x16 adapter, 1GB,	Intel AMT Intel AMT supported on model(s) with Xeon processor
Media reader Optical Disk(s) Onboard SATA Onboard SAS	one DisplayPort, one dual-link DVI-I, 40W Media: 29-in-1 Media card reader, internal USB 2.0 Super Multi-Burner DL DVD±RW SATA 1.5Gb/s Drive 250GB/500GB/1TB/2TB/3TB SATA: SATA 6.0Gb/s, 7200 rpm, 3.5" 150GB/300GB/600GB SATA: SATA 6.0Gb/s, 10000 rpm, 2.5" 128GB/180GB/256GB SSD: Solid State Drive, SATA 6.0Gb/s, 2.5" Two SATA 6.0Gb/s connectors (red), two SATA 3.0Gb/s connectors (orange), RAID 0, 1 support via Intel C216 Chipset	Preloaded operating system ²⁰ Windows® 7 Professional 64 Preloaded applications ⁵ (only some listed) Rescue and Recovery® Norton® Internet Security (30 days of virus definitions) Adobe® Reader® Microsoft® Office 2013 preloaded; purchase product key to activate
Chipset	None Intel C216 Chipset	Corel® WinDVD® (DVD±RW model(s)) Ulead® DVD MovieFactory® (DVD±RW model(s))
Front ports Rear ports	Two USB 2.0, microphone (3.5mm), headphone (3.5mm) Two USB 2.0, four USB 3.0 (blue), one serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in), one analog VGA DB-15 connector, one DisplayPort connector (Onboard VGA and DisplayPort are functional when the following processors are used: Xeon E3-1225V2/1245V2/1275V2, Core i7-3770, Core i5-3450/3550, Core i3-2120/2130, Pentium, and Celeron processors) PS/2 models: additional PS/2 keyboard and mouse connectors via PS/2 rear I/O cable	SECURITY Security chip (see information on left) 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
IEEE 1394 adptr	No onboard 1394 ports;	Administrator password Boot sequence control
ILLE 1094 aupti	1394 models: additional FireWire PCle adapter, 1394a-2000,	Boot without keyboard, mouse
Audio Speaker	400Mbps, two 6-pin ports on rear High Definition (HD) Audio, Realtek® ALC662 codec Internal speaker for business audio	Serial port I/O control USB port disablement (front or all/individual) Chassis intrusion switch available on selected model(s)
Audio	400Mbps, two 6-pin ports on rear High Definition (HD) Audio, Realtek® ALC662 codec Internal speaker for business audio One onboard gigabit ethernet, Intel 82579 STMicroelectronics ST33ZP24 Trusted Platform Module (TPM),	Serial port I/O control USB port disablement (front or all/individual)
Audio Speaker Ethernet	400Mbps, two 6-pin ports on rear High Definition (HD) Audio, Realtek® ALC662 codec Internal speaker for business audio One onboard gigabit ethernet, Intel 82579	Serial port I/O control USB port disablement (front or all/individual) Chassis intrusion switch available on selected model(s) ISV certifications

ThinkStation® E31 Tower (2552) - March 2013

Type- model ¹	Processor	Memory (MHz/ECC)	Memory DIMMs	Pre-conf RAID	Drive(s)	Media reader	SATA optical	Graphics adapter(s)	1394 adptr	PS/2 rear I/O	Chassis intrusion switch	
2552-CVU	Core i3-3220	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5" SATA	Media	DVD±RW	Quadro K600	No	No	Switch	Win7 Pro64(DG)
2552-CWU	Core i3-3220	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5" SATA	Media	DVD±RW	Intel HD 2500	No	No	Switch	Win7 Pro64(DG)
2552-CYU	Core i3-3240	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5" SATA	Media	DVD±RW	Quadro K600	No	No	Switch	Win7 Pro64(DG)
2552-CZU	Core i3-3240	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5" SATA	Media	DVD±RW	Intel HD 2500	No	No	Switch	Win7 Pro64(DG)
2552-D1U	Core i3-3240	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5" SATA	Media	DVD±RW	Quadro 410	No	No	Switch	Win7 Pro64(DG)
2552-D2U	Core i5-3470	1600MHz Non-ECC	1x4GB	No	1x1TB 3.5" SATA	Media	DVD±RW	Quadro K2000	No	No	Switch	Win7 Pro64(DG)
2552-D3U	Core i5-3550	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5" SATA	Media	DVD±RW	Intel HD 2500	No	No	Switch	Win7 Pro64(DG)

Model in italics shows that this is a Global Model Win7 Pro64(DG) = Windows 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit Intel® Core™ i3-3220 processor (2C/4T, 3.3GHz, 3MB Cache), Processor integrated Intel HD Graphics 2500, DDR3 memory controller (up to 1600MHz) Intel Core i3-3240 processor (2C/4T, 3.4GHz, 3MB Cache), integrated Intel HD Graphics 2500, DDR3 memory controller (up to 1600MHz) Intel Core i5-3470 processor (4C/4T, 3.2GHz, 6MB Cache), integrated Intel HD Graphics 2500, Turbo Boost 2.0 (up to 3.6GHz), DDR3 memory controller (up to 1600MHz) Intel Core i5-3550 processor (4C/4T, 3.3GHz, 6MB Cache), integrated Intel HD Graphics 2500, Turbo Boost 2.0 (up to 3.7GHz), DDR3 memory controller (up to 1600MHz) Implementation One LGA1155 socket 32GB max, UDIMM, PC3-12800 1600MHz DDR3, ECC or non-ECC, Memory four 240-pin DIMM sockets; Additional memory Actual memory operating speed depends on processor memory disclaimers controller speed, installed memory speed, and quantity of memory DIMMs • Mixing of ECC and non-ECC memory is not supported Some: Intel HD Graphics in processor, uses main memory, works along with Graphics discrete graphics to support multi-display; (detailed graphics model name please see **Processor** section,

connector information please see Rear ports section)
Some: NVIDIA® Quadro® 410, PCIe x16 adapter, 512MB,
one DisplayPort, one dual-link DVI-I, 37W

Some: NVIDIA Quadro K600, PCIe x16 adapter, 1GB, one DisplayPort, one dual-link DVI-I, 41W Some: NVIDIA Quadro K2000, PCIe x16 adapter, 2GB, two DisplayPort, one dual-link DVI-I, 51W

Media reader 29-in-1 Media card reader in selected models, internal USB 2.0 Optical DVD, DVD±RW, or Blu-ray, depending on model 3.5" SATA: 2.5" SATA: SATA 6.0Gb/s, 7200 rpm, 3.5 Drive(s) SATA 6.0Gb/s, 10000 rpm, 2.5" SSD: Solid State Drive, SATA 6.0Gb/s, 2.5"

Onboard SATA Two SATA 6.0Gb/s connectors (red), two SATA 3.0Gb/s connectors (orange), RAID 0, 1 support via Intel C216 Chipset

Onboard SAS

Power supply

Chipset Intel C216 Chipset Front ports Two USB 2.0, microphone (3.5mm), headphone (3.5mm) Rear ports Two USB 2.0, four USB 3.0 (blue), one serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in), one analog VGA DB-15 connector, one DisplayPort connector (Onboard VGA and DisplayPort[™] are functional when the following processors

are used: Xeon E3-12X5V2, Core i7, i5, i3, Pentium, and Celeron processors) PS/2 models: additional PS/2 keyboard and mouse connectors

via PS/2 rear I/O cable

IEEE 1394 adptr No onboard 1394 ports;

1394 models: additional FireWire PCle adapter, 1394a-2000,

400Mbps, two 6-pin ports on rear High Definition (HD) Audio, Realtek® ALC662 codec

Audio Speaker Internal speaker for business audio Ethernet One onboard gigabit ethernet, Intel 82579

Security chip STMicroelectronics ST33ZP24 Trusted Platform Module (TPM),

TCG 1.2-compliant

Keyboard Preferred Pro USB Keyboard (USB connector), 104-key, black Mouse

Optical Wheel Mouse (USB connector), black

280 watts with variable speed fan, autosensing, 85% PSU, Climate Savers® Computing Bronze, 80 PLUS® Bronze qualified

GREENGUARD® certified

Eco-Label and RoHS-compliant EPEAT™ Gold rating environmental certifications **ENERGY STAR 5.2-compliant**

ISV certifications See the latest list of ISV certifications at www.lenovo.com/support/ISV Supports ThinkVantage® technologies ThinkVantage

Limited Warranty 3-year parts and labor, more Lenovo® services see S-TS sheet





- Raven black color; metal case
- 6.9"W x 17.0"D x 16.7"H (with handle)
- 175mm W x 431mm D x 425mm H 27.56 lb (12.5kg) max configuration
- 25-liter
- Removable handle on top front
- Toolless side cover removal
- Toolless disk and optical drive removal
- Toolless adapter retention
- Illuminated front icons
- · Recessed power button

Bay 1: 5.25", 1.6" high, access, Bay 2: 5.25", 1.6" high, access, Bay 3: 3.5", 1" high, access, Bay 4: 3.5", 1" high, internal, Bay 5: 3.5", 1" high, internal, for optical open for media reader for disk

for disk

Slot 1: half-length, full-height, PCle* x16 (75w max, near CPU)
* PCle 2.0 x16 on Core i3/Pentium/Celeron models, PCle 3.0 x16 on Xeon/Core i5/Core i7 models

Slot 2: half-length, full-height, PCle 2.0 x1 Slot 3: half-length, full-height, 32-bit PCl 2.3 Slot 4: half-length, full-height, 32-bit PCI 2.3

Intel AMT

Intel AMT supported on model(s) with Xeon processor

Preloaded operating system²⁰

Windows® 7 Professional 64 Some: Windows 7 Professional 64 Some: preinstalled through downgrade rights in Windows 8 Pro 64-bit

Windows 8 Pro 64-bit

Preloaded applications⁵ (only some listed)

-Windows 7 models

- Rescue and Recovery[®] Norton™ Internet Security (30 days of virus definitions)

Adobe® Reader®

- Microsoft® Office 2013 preloaded; purchase product key to activate
- Corel® WinDVD® (DVD±RW model(s))
 Ulead® DVD MovieFactory® (DVD±RW model(s))

-Windows 8 models

- Evernote^o
- 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))

- · Security chip (see information on left)
- 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
- Serial port I/O control
- USB port disablement (front or all/individual)
- Chassis intrusion switch available on selected model(s)

ThinkStation® E31 Tower (2552) - March 2013 - II

Type- model ¹	Processor	Memory (MHz/ECC)	Memory DIMMs	Pre-conf RAID	Drive(s)	Media reader	SATA optical	Graphics adapter(s)	1394 adptr	PS/2 rear I/O	Chassis intrusion switch	
2552-D4U	Core i5-3570	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5" SATA	Media	DVD±RW	Intel HD 2500	No	No	Switch	Win7 Pro64(DG)
2552-D5U	Core i5-3570	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5" SATA	Media	DVD±RW	Quadro 410	No	No	Switch	Win7 Pro64(DG)
2552-D6U	Core i7-3770	1600MHz Non-ECC	1x4GB	No	1x1TB 3.5" SATA	Media	DVD±RW	Quadro K2000	No	No	Switch	Win7 Pro64(DG)
2552-D7U	Xeon E3-1225V2	1600MHz ECC	1x4GB	No	1x500GB 3.5" SATA	Media	DVD±RW	Intel HD P4000	No	No	Switch	Win7 Pro64(DG)
2552-D8U	Xeon E3-1225V2	1600MHz ECC	1x4GB	No	1x1TB 3.5" SATA	Media	DVD±RW	Quadro K2000	No	No	Switch	Win7 Pro64(DG)
2552-D9U	Xeon E3-1245V2	1600MHz ECC	1x4GB	No	1x1TB 3.5" SATA	Media	DVD±RW	Quadro K2000	No	No	Switch	Win7 Pro64(DG)
2552-DAU	Xeon E3-1275V2	1600MHz ECC	1x4GB	No	1x500GB 3.5" SATA	Media	DVD±RW	Quadro K600	No	No	Switch	Win7 Pro64(DG)

2332-DAO Neon La	3-12/3V2 1000Williz EGC 1x4GB 100 1x300GB 3.3 SATA Wiedla DVB	±11VV Quadio Rood 140 140 Switch VVIII/ 1 1004(DC
1 Model in italics shows 2 Win7 Pro64(DG) = Wi	that this is a Global Model indows 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit	
Processor	Intel® Core™ i5-3570 processor (4C/4T, 3.4GHz, 6MB Cache), integrated Intel HD Graphics 2500, Turbo Boost 2.0 (up to 3.8GHz), DDR3 memory controller (up to 1600MHz) Intel Core i7-3770 processor (4C/8T, 3.4GHz, 8MB Cache), integrated Intel HD Graphics 4000, Turbo Boost 2.0 (up to 3.9GHz), DDR3 memory controller (up to 1600MHz) Intel Xeon® E3-1225V2 processor (4C/4T, 3.2GHz, 8MB Cache), Turbo Boost 2.0 (up to 3.6GHz), integrated Intel HD Graphics P4000, DDR3 memory controller (up to 1600MHz) Intel Xeon E3-1245V2 processor (4C/8T, 3.4GHz, 8MB Cache), Turbo Boost 2.0 (up to 3.8GHz), integrated Intel HD Graphics P4000, DDR3 memory controller (up to 1600MHz) Intel Xeon E3-1275V2 processor (4C/8T, 3.5GHz, 8MB Cache), Turbo Boost 2.0 (up to 3.8GHz), integrated Intel HD Graphics P4000, DDR3 memory controller (up to 1600MHz) Intel Xeon E3-1275V2 processor (4C/8T, 3.5GHz, 8MB Cache),	• Raven black color; metal case • 6.9"W x 17.0"D x 16.7"H (with handle) • 175mm W x 431mm D x 425mm H • 27.56 lb (12.5kg) max configuration • 25-liter • Removable handle on top front • Toolless side cover removal • Toolless disk and optical drive removal • Toolless adapter retention • Illuminated front icons • Recessed power button
	Turbo Boost 2.0 (up to 3.9GHz), integrated Intel HD Graphics P4000, DDR3 memory controller (up to 1600MHz)	Bay 1: 5.25", 1.6" high, access, for optical
Implementation	One LGA1155 socket	Bay 2: 5.25", 1.6" high, access, open
	32GB max, UDIMM, PC3-12800 1600MHz DDR3, ECC or non-ECC, four 240-pin DIMM sockets; • Actual memory operating speed depends on processor memory	Bay 3: 3.5", 1" high, access, for media reader Bay 4: 3.5", 1" high, internal, for disk Bay 5: 3.5", 1" high, internal, for disk
disclaimers	controller speed, installed memory speed, and quantity of memory DIMMs • Mixing of ECC and non-ECC memory is not supported	Slot 1: half-length, full-height, PCIe* x16
Graphics	Some: Intel HD Graphics in processor, uses main memory, works along with discrete graphics to support multi-display; (detailed graphics model name please see Processor section, connector information please see Rear ports section) Some: NVIDIA® Quadro® 410, PCIe x16 adapter, 512MB, one DisplayPort, one dual-link DVI-1, 37W	* PCle 2.0 x16 on Core i3/Pentium/Celeron models, PCle 3.0 x16 on Xeon/Core i5/Core i7 models Slot 2: half-length, full-height, PCle 2.0 x1 Slot 3: half-length, full-height, 32-bit PCl 2.3 Slot 4: half-length, full-height, 32-bit PCl 2.3
	Some: NVIDIA Quadro K600, PCle x16 adapter, 1GB,	Intel AMT Intel AMT supported on model(s) with Xeon processor
	one DisplayPort, one dual-link DVI-I, 41W Some: NVIDIA Quadro K2000, PCIe x16 adapter, 2GB,	Preloaded operating system ²⁰
	two DisplayPort, one dual-link DVI-I, 51W	Some: Windows® 7 Professional 64
Media reader Optical Drive(s)	29-in-1 Media card reader in selected models, internal USB 2.0 DVD, DVD±RW, or Blu-ray, depending on model 3.5" SATA: SATA 6.0Gb/s, 7200 rpm, 3.5" 2.5" SATA: SATA 6.0Gb/s, 10000 rpm, 2.5"	Some: Windows 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit Some: Windows 8 Pro 64-bit
Onboard SATA	SSD: Solid State Drive, SATA 6.0Gb/s, 2.5" Two SATA 6.0Gb/s connectors (red), two SATA 3.0Gb/s connectors (orange), RAID 0, 1 support via Intel C216 Chipset	Preloaded applications ⁵ (only some listed) -Windows 7 models • Rescue and Recovery®
Onboard SAS Chipset	None	 Norton™ Internet Security (30 days of virus definitions)
Front ports Rear ports	Intel C216 Chipset Two USB 2.0, microphone (3.5mm), headphone (3.5mm) Two USB 2.0, four USB 3.0 (blue), one serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in), one analog VGA DB-15 connector, one DisplayPort connector (Onboard VGA and DisplayPort TM are functional when the following processors	Adobe® Reader® Microsoft® Office 2013 preloaded; purchase product key to activate Corel® WinDVD® (DVD±RW model(s)) Ulead® DVD MovieFactory® (DVD±RW model(s)) -Windows 8 models
	are used: Xeon E3-12X5V2, Core i7, i5, i3, Pentium, and Celeron processors) PS/2 models: additional PS/2 keyboard and mouse connectors via PS/2 rear I/O cable	Evernote® Norton Internet Security (30 days of virus definitions) Norton Studio
IEEE 1394 adptr	No onboard 1394 ports; 1394 models: additional FireWire PCIe adapter, 1394a-2000, 400Mbps, two 6-pin ports on rear	Skype™ Microsoft Office 2013 preloaded; purchase product key to activate Office 2013 preloaded; purchase product key to activate
Audio Speaker	High Definition (HD) Audio, Realtek® ALC662 codec Internal speaker for business audio	Cyberlink Power2Go (DVD±RW model(s)) Cyberlink PowerProducer (DVD±RW model(s))
Ethernet .	One onboard gigabit ethernet, Intel 82579	SECURITY
Security chip	STMicroelectronics ST33ZP24 Trusted Platform Module (TPM), TCG 1.2-compliant	Security chip (see information on left) Padlock loop (in rear for opt padlock;
Keyboard	Preferred Pro USB Keyboard (USB connector), 104-key, black	padlock prohibits side cover removal)
Mouse Power cumply	Optical Wheel Mouse (USB connector), black	Security slot (in rear for optional Kensington® Microsaver® cable;
Power supply	280 watts with variable speed fan, autosensing, 85% PSU, Climate Savers® Computing Bronze, 80 PLUS® Bronze qualified	prohibits side cover removal)
Eco-Label and	GREENGUARD® certified	Power-on password Administrator password
environmental certifications	RoHS-compliant EPEAT™ Gold rating	Boot sequence control Boot without keyboard, mouse
	ENERGY STAR 5.2-compliant	Serial port I/O control
ISV certifications	See the latest list of ISV certifications at www.lenovo.com/support/ISV	USB port disablement (front or all/individual)

3-year parts and labor, more Lenovo® services see S-TS sheet

Supports ThinkVantage® technologies

Limited Warranty

ThinkVantage

Chassis intrusion switch available on selected model(s)

More compatible accessories, please see O-DEM sheet

ThinkStation® E31 Tower (2552) - March 2013 - III

Type- model ¹	Processor	Memory (MHz/ECC)	Memory DIMMs	Pre-conf RAID	Drive(s)	Media reader	SATA optical	Graphics adapter(s)	1394 adptr	PS/2 rear I/O	Chassis intrusion switch	Preload OS ²
2552-DBU	Xeon E3-1275V2	1600MHz ECC	1x4GB	No	1x1TB 3.5" SATA	Media	DVD±RW	Quadro K2000	No	No	Switch	Win7 Pro64(DG)
2552-DCU	Core i3-2130	1600MHz Non-ECC	1x4GB	No	1x128GB SSD	Media	DVD±RW	Intel HD 2000	No	No	Switch	Win7 Pro64(DG)
2552-DDU	Core i7-3770	1600MHz Non-ECC	1x4GB	No	1x180GB SSD	Media	DVD±RW	Quadro K600	No	No	Switch	Win7 Pro64(DG)
2552-DEU	Xeon E3-1275V2	1600MHz ECC	1x4GB	No	1x256GB SSD	Media	DVD±RW	Quadro K600	No	No	Switch	Win7 Pro64(DG)
2552-DFU	Core i3-3220	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5" SATA	Media	DVD±RW	Quadro K600	No	No	Switch	Win8 Pro64
2552-DGU	Core i3-3220	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5" SATA	Media	DVD±RW	Intel HD 2500	No	No	Switch	Win8 Pro64
2552-DHU	Core i3-3220	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5" SATA	Media	DVD±RW	Quadro 410	No	No	Switch	Win8 Pro64

- Model in italics shows that this is a Global Model Win7 Pro64(DG) = Windows 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit

Intel® Core™ i3-2130 processor (2C/4T, 3.4GHz, 3MB Cache), Processor integrated Intel HD Graphics 2000, DDR3 memory controller (up to 1333MHz) Intel Core i3-3220 processor (2C/4T, 3.3GHz, 3MB Cache), integrated Intel HD Graphics 2500, DDR3 memory controller (up to 1600MHz) Intel Core i7-3770 processor (4C/8T, 3.4GHz, 8MB Cache), integrated Intel HD Graphics 4000, Turbo Boost 2.0 (up to 3.9GHz), DDR3 memory controller (up to 1600MHz) Intel Xeon® E3-1275V2 processor (4C/8T, 3.5GHz, 8MB Cache), Turbo Boost 2.0 (up to 3.9GHz), integrated Intel HD Graphics P4000, DDR3 memory controller (up to 1600MHz) Implementation One LGA1155 socket 32GB max, UDIMM, PC3-12800 1600MHz DDR3, ECC or non-ECC, Memory four 240-pin DIMM sockets; Additional memory Actual memory operating speed depends on processor memory disclaimers controller speed, installed memory speed, and quantity of memory DIMMs • Mixing of ECC and non-ECC memory is not supported Some: Intel HD Graphics in processor, uses main memory, works along with Graphics discrete graphics to support multi-display; (detailed graphics model name please see **Processor** section, connector information please see Rear ports section)
Some: NVIDIA® Quadro® 410, PCIe x16 adapter, 512MB,
one DisplayPort, one dual-link DVI-I, 37W Some: NVIDIA Quadro K600, PCIe x16 adapter, 1GB, one DisplayPort, one dual-link DVI-I, 41W Some: NVIDIA Quadro K2000, PCIe x16 adapter, 2GB, two DisplayPort, one dual-link DVI-I, 51W Media reader 29-in-1 Media card reader in selected models, internal USB 2.0 Optical DVD, DVD±RW, or Blu-ray, depending on model 3.5" SATA: 2.5" SATA: SATA 6.0Gb/s, 7200 rpm, 3.5 Drive(s) SATA 6.0Gb/s, 10000 rpm, 2.5" SSD: Solid State Drive, SATA 6.0Gb/s, 2.5" Onboard SATA Two SATA 6.0Gb/s connectors (red), two SATA 3.0Gb/s connectors (orange), RAID 0, 1 support via Intel C216 Chipset Onboard SAS Chipset Intel C216 Chipset Front ports Two USB 2.0, microphone (3.5mm), headphone (3.5mm) Rear ports Two USB 2.0, four USB 3.0 (blue), one serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in), one analog VGA DB-15 connector, one DisplayPort connector (Onboard VGA and DisplayPort[™] are functional when the following processors are used: Xeon E3-12X5V2, Core i7, i5, i3, Pentium, and Celeron processors) PS/2 models: additional PS/2 keyboard and mouse connectors via PS/2 rear I/O cable IEEE 1394 adptr No onboard 1394 ports; 1394 models: additional FireWire PCle adapter, 1394a-2000, 400Mbps, two 6-pin ports on rear High Definition (HD) Audio, Realtek® ALC662 codec Audio Speaker Internal speaker for business audio One onboard gigabit ethernet, Intel 82579 **Ethernet** Security chip STMicroelectronics ST33ZP24 Trusted Platform Module (TPM), TCG 1.2-compliant Keyboard Preferred Pro USB Keyboard (USB connector), 104-key, black Mouse Optical Wheel Mouse (USB connector), black 280 watts with variable speed fan, autosensing, 85% PSU, Climate Savers® Computing Bronze, 80 PLUS® Bronze qualified Power supply Eco-Label and GREENGUARD® certified RoHS-compliant EPEAT™ Gold rating environmental certifications **ENERGY STAR 5.2-compliant**

See the latest list of ISV certifications at www.lenovo.com/support/ISV

3-year parts and labor, more Lenovo® services see S-TS sheet

Supports ThinkVantage® technologies





- Raven black color; metal case
- 6.9"W x 17.0"D x 16.7"H (with handle)
- 175mm W x 431mm D x 425mm H 27.56 lb (12.5kg) max configuration
- 25-liter
- Removable handle on top front
- Toolless side cover removal
- Toolless disk and optical drive removal

for disk

- Toolless adapter retention
- Illuminated front icons
- · Recessed power button

Bay 1: 5.25", 1.6" high, access, Bay 2: 5.25", 1.6" high, access, Bay 3: 3.5", 1" high, access, Bay 4: 3.5", 1" high, internal, Bay 5: 3.5", 1" high, internal, for optical open for media reader for disk

Slot 1: half-length, full-height, PCle* x16 (75w max, near CPU)
* PCle 2.0 x16 on Core i3/Pentium/Celeron models, PCle 3.0 x16 on Xeon/Core i5/Core i7 models

Slot 2: half-length, full-height, PCle 2.0 x1 Slot 3: half-length, full-height, 32-bit PCl 2.3 Slot 4: half-length, full-height, 32-bit PCI 2.3

Intel AMT

Intel AMT supported on model(s) with Xeon processor

Preloaded operating system²⁰

Windows® 7 Professional 64 Some: Windows 7 Professional 64 Some: preinstalled through downgrade rights in Windows 8 Pro 64-bit

Windows 8 Pro 64-bit

Preloaded applications⁵ (only some listed)

-Windows 7 models

- Rescue and Recovery[®] Norton™ Internet Security (30 days of virus definitions)

Adobe® Reader®

- Microsoft® Office 2013 preloaded; purchase product key to activate
- Corel® WinDVD® (DVD±RW model(s))
- Ulead® DVD MovieFactory® (DVD±RW model(s))

-Windows 8 models

- Evernote^o
- 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))

- · Security chip (see information on left) 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
- Serial port I/O control
- USB port disablement (front or all/individual)
- Chassis intrusion switch available on selected model(s)

More compatible accessories, please see O-DEM sheet

ISV certifications

Limited Warranty

ThinkVantage

ThinkStation® E31 Tower (2552) - March 2013 - IV

Type- model ¹	Processor	Memory (MHz/ECC)	Memory DIMMs	Pre-conf RAID	Drive(s)	Media reader	SATA optical	Graphics adapter(s)	1394 adptr	PS/2 rear I/O	Chassis intrusion switch	Preload OS ²
2552-DJU	Core i3-3240	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5" SATA	Media	DVD±RW	Quadro K600	No	No	Switch	Win8 Pro64
2552-DKU	Core i3-3240	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5" SATA	Media	DVD±RW	Intel HD 2500	No	No	Switch	Win8 Pro64
2552-DLU	Core i3-3240	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5" SATA	Media	DVD±RW	Quadro 410	No	No	Switch	Win8 Pro64
2552-DMU	Core i5-3470	1600MHz Non-ECC	1x4GB	No	1x1TB 3.5" SATA	Media	DVD±RW	Quadro K2000	No	No	Switch	Win8 Pro64
2552-DNU	Core i5-3470	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5" SATA	Media	DVD±RW	Quadro 410	No	No	Switch	Win8 Pro64
2552-DPU	Core i5-3550	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5" SATA	Media	DVD±RW	Intel HD 2500	No	No	Switch	Win8 Pro64
2552-DQU	Core i5-3550	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5" SATA	Media	DVD±RW	Quadro 410	No	No	Switch	Win8 Pro64

- Model in italics shows that this is a Global Model
 Win7 Pro64(DG) = Windows 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit

2 Win7 Pro64(DG) = Wir	ndows 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit	
Processor	Intel® Core™ i3-3240 processor (2C/4T, 3.4GHz, 3MB Cache), integrated Intel HD Graphics 2500, DDR3 memory controller (up to 1600MHz) Intel Core i5-3470 processor (4C/4T, 3.2GHz, 6MB Cache), integrated Intel HD Graphics 2500, Turbo Boost 2.0 (up to 3.6GHz), DDR3 memory controller (up to 1600MHz) Intel Core i5-3550 processor (4C/4T, 3.3GHz, 6MB Cache), integrated Intel HD Graphics 2500, Turbo Boost 2.0 (up to 3.7GHz), DDR3 memory controller (up to 1600MHz)	
Implementation	One LGA1155 socket	1
Memory	32GB max, UDIMM , PC3-12800 1600MHz DDR3 , ECC or non-ECC , four 240-pin DIMM sockets;	
Additional memory disclaimers	 Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs Mixing of ECC and non-ECC memory is not supported 	
Graphics	Some: Intel HD Graphics in processor, uses main memory, works along with discrete graphics to support multi-display; (detailed graphics model name please see Processor section, connector information please see Rear ports section) Some: NVIDIA® Quadro® 410, PCIe x16 adapter, 512MB, one DisplayPort, one dual-link DVI-I, 37W Some: NVIDIA Quadro K600, PCIe x16 adapter, 1GB, one DisplayPort, one dual-link DVI-I, 41W Some: NVIDIA Quadro K2000, PCIe x16 adapter, 2GB, two DisplayPort, one dual-link DVI-I, 51W	
Media reader	29-in-1 Media card reader in selected models, internal USB 2.0	1
Optical	DVD, DVD±RW, or Blu-ray, depending on model	H
Drive(s)	3.5" SATA: SATA 6.0Gb/s, 7200 rpm, 3.5" 2.5" SATA: SATA 6.0Gb/s, 10000 rpm, 2.5" SSD: Solid State Drive, SATA 6.0Gb/s, 2.5"	
Onboard SATA	Two SATA 6.0Gb/s connectors (red), two SATA 3.0Gb/s connectors (orange), RAID 0, 1 support via Intel C216 Chipset	
Onboard SAS	None	
Chipset	Intel C216 Chipset	1
Front ports Rear ports	Two USB 2.0, microphone (3.5mm), headphone (3.5mm) Two USB 2.0, four USB 3.0 (blue), one serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in), one analog VGA DB-15 connector, one DisplayPort connector (Onboard VGA and DisplayPort TM are functional when the following processors are used: Xeon E3-12X5V2, Core i7, i5, i3, Pentium, and Celeron processors) PS/2 models: additional PS/2 keyboard and mouse connectors via PS/2 rear I/O cable	
IEEE 1394 adptr	No onboard 1394 ports; 1394 models: additional FireWire PCIe adapter, 1394a-2000, 400Mbps, two 6-pin ports on rear	
Audio	High Definition (HD) Audio, Realtek® ALC662 codec	ŀ
Speaker	Internal speaker for business audio	
Ethernet	One onboard gigabit ethernet, Intel 82579	
Security chip	STMicroelectronics ST33ZP24 Trusted Platform Module (TPM), TCG 1.2-compliant	
Keyboard	Preferred Pro USB Keyboard (USB connector), 104-key, black	
Mouse Power supply	Optical Wheel Mouse (USB connector), black 280 watts with variable speed fan, autosensing, 85% PSU, Climate Savers® Computing Bronze, 80 PLUS® Bronze qualified	
Eco-Label and	GREENGUARD® certified	1
environmental certifications	RoHS-compliant EPEAT™ Gold rating ENERGY STAR 5.2-compliant	
ISV certifications	See the latest list of ISV certifications at www.lenovo.com/support/ISV	1
ThinkVantage	Supports ThinkVantage® technologies	1
Limited Marranty	2 year parts and labor more Langua® cornigon and C TC about	1

3-year parts and labor, more Lenovo® services see S-TS sheet

Tower



- Raven black color; metal case
- 6.9"W x 17.0"D x 16.7"H (with handle)
- 175mm W x 431mm D x 425mm H 27.56 lb (12.5kg) max configuration
- 25-liter
- Removable handle on top front
- Toolless side cover removal
- Toolless disk and optical drive removal
- Toolless adapter retention
- Illuminated front icons
- · Recessed power button

Bay 1: 5.25", 1.6" high, access, Bay 2: 5.25", 1.6" high, access, Bay 3: 3.5", 1" high, access, Bay 4: 3.5", 1" high, internal, Bay 5: 3.5", 1" high, internal, for optical open for media reader

for disk for disk

Slot 1: half-length, full-height, PCIe* x16 (75w max, near CPU)

PCIe 2.0 x16 on Core i3/Pentium/Celeron models. PCIe 3.0 x16 on Xeon/Core i5/Core i7 models

Slot 2: half-length, full-height, PCIe 2.0 x1 Slot 3: half-length, full-height, 32-bit PCI 2.3 Slot 4: half-length, full-height, 32-bit PCI 2.3

Intel AMT

Intel AMT supported on model(s) with Xeon processor

Preloaded operating system²⁰

Windows® 7 Professional 64 Some: Windows 7 Professional 64 Some: preinstalled through downgrade rights in Windows 8 Pro 64-bit Windows 8 Pro 64-bit

Preloaded applications⁵ (only some listed)

-Windows 7 models

- Rescue and Recovery®
 Norton™ Internet Security (30 days of virus definitions)

Adobe® Reader®

- Microsoft® Office 2013 preloaded; purchase product key to activate
- Corel® WinDVD® (DVD±RW model(s))
- Ulead® DVD MovieFactory® (DVD±RW model(s))

-Windows 8 models

- Evernote^o
- 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))

- Security chip (see information on left) 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
- Serial port I/O control
- USB port disablement (front or all/individual)
- Chassis intrusion switch available on selected model(s)

More compatible accessories, please see O-DEM sheet

Limited Warranty

ThinkStation® E31 Tower (2552) - March 2013 - V

Type- model ¹	Processor	Memory (MHz/ECC)	Memory DIMMs	Pre-conf RAID	Drive(s)	Media reader	SATA optical	Graphics adapter(s)	1394 adptr	PS/2 rear I/O	Chassis intrusion switch	Preload OS ²
2552-DRU	Core i5-3570	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5" SATA	Media	DVD±RW	Intel HD 2500	No	No	Switch	Win8 Pro64
2552-DSU	Core i5-3570	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5" SATA	Media	DVD±RW	Quadro 410	No	No	Switch	Win8 Pro64
2552-DTU	Core i7-3770	1600MHz Non-ECC	1x4GB	No	1x1TB 3.5" SATA	Media	DVD±RW	Quadro K2000	No	No	Switch	Win8 Pro64
2552-DUU	Xeon E3-1225V2	1600MHz ECC	1x4GB	No	1x500GB 3.5" SATA	Media	DVD±RW	Intel HD P4000	No	No	Switch	Win8 Pro64
2552-DVU	Xeon E3-1225V2	1600MHz ECC	1x4GB	No	1x1TB 3.5" SATA	Media	DVD±RW	Quadro K2000	No	No	Switch	Win8 Pro64
2552-DWU	Xeon E3-1230V2	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5" SATA	Media	DVD±RW	Quadro 410	No	No	Switch	Win8 Pro64
2552-DYU	Xeon E3-1245V2	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5" SATA	Media	DVD±RW	Quadro 410	No	No	Switch	Win8 Pro64

1 Model in italics shows 2 Win7 Pro64(DG) = Wir	that this is a Global Model ndows 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit	
Processor	Intel® Core™ i5-3570 processor (4C/4T, 3.4GHz, 6MB Cache), integrated Intel HD Graphics 2500, Turbo Boost 2.0 (up to 3.8GHz), DDR3 memory controller (up to 1600MHz) Intel Core i7-3770 processor (4C/8T, 3.4GHz, 8MB Cache), integrated Intel HD Graphics 4000, Turbo Boost 2.0 (up to 3.9GHz), DDR3 memory controller (up to 1600MHz) Intel Xeon® E3-1225V2 processor (4C/4T, 3.2GHz, 8MB Cache), Turbo Boost 2.0 (up to 3.6GHz), integrated Intel HD Graphics P4000, DDR3 memory controller (up to 1600MHz) Intel Xeon E3-1230V2 processor (4C/8T, 3.3GHz, 8MB Cache), Turbo Boost 2.0 (up to 3.7GHz), DDR3 memory controller (up to 1600MHz) Intel Xeon E3-1245V2 processor (4C/8T, 3.4GHz, 8MB Cache), Turbo Boost 2.0 (up to 3.8GHz), integrated Intel HD Graphics P4000, DDR3 memory controller (up to 1600MHz) One LGA1155 socket	Raven black color; metal case 6.9"W x 17.0"D x 16.7"H (with handle) 175mm W x 431mm D x 425mm H 27.56 lb (12.5kg) max configuration 25-liter Removable handle on top front Toolless side cover removal Toolless disk and optical drive removal Toolless adapter retention Illuminated front icons Recessed power button Bay 1: 5.25", 1.6" high, access, for optical
Memory	32GB max, UDIMM, PC3-12800 1600MHz DDR3, ECC or non-ECC,	Bay 2: 5.25", 1.6" high, access, open
•	four 240-pin DIMM sockets; • Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs • Mixing of ECC and non-ECC memory is not supported	Bay 3: 3.5", 1" high, access, for media reader Bay 4: 3.5", 1" high, internal, for disk Bay 5: 3.5", 1" high, internal, for disk
Graphics	Some: Intel HD Graphics in processor, uses main memory, works along with discrete graphics to support multi-display; (detailed graphics model name please see Processor section, connector information please see Rear ports section) Some: NVIDIA® Quadro® 410, PCIe x16 adapter, 512MB, one DisplayPort, one dual-link DVI-I, 37W Some: NVIDIA Quadro K2000, PCIe x16 adapter, 2GB, two DisplayPort, one dual-link DVI-I, 51W	* PCle 2.0 x16 on Core i3/Pentium/Celeron models, PCle 3.0 x16 on Xeon/Core i5/Core i7 models Slot 2: half-length, full-height, PCle 2.0 x1 Slot 3: half-length, full-height, 32-bit PCl 2.3 Slot 4: half-length, full-height, 32-bit PCl 2.3 Intel AMT
Media reader	29-in-1 Media card reader in selected models, internal USB 2.0	Intel AMT supported on model(s) with Xeon processor
Optical Drive(s) Onboard SATA	DVD, DVD±RW, or Blu-ray, depending on model 3.5" SATA: SATA 6.0Gb/s, 7200 rpm, 3.5" 2.5" SATA: SATA 6.0Gb/s, 10000 rpm, 2.5" SSD: Solid State Drive, SATA 6.0Gb/s, 2.5" Two SATA 6.0Gb/s connectors (red), two SATA 3.0Gb/s connectors (orange), RAID 0, 1 support via Intel C216 Chipset	Some: Windows® 7 Professional 64 Some: Windows 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit Some: Windows 8 Pro 64-bit
Onboard SAS	None	Preloaded applications ⁵ (only some listed)
Chipset Front ports Rear ports	Intel C216 Chipset Two USB 2.0, microphone (3.5mm), headphone (3.5mm) Two USB 2.0, four USB 3.0 (blue), one serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in), one analog VGA DB-15 connector, one DisplayPort connector (Onboard VGA and DisplayPort TM are functional when the following processors are used: Xeon E3-12X5V2, Core i7, i5, i3, Pentium, and Celeron processors) PS/2 models: additional PS/2 keyboard and mouse connectors via PS/2 rear I/O cable	-Windows 7 models Rescue and Recovery® Norton™ Internet Security (30 days of virus definitions) Adobe® Reader® Microsoft® Office 2013 preloaded; purchase product key to activate Corel® WinDVD® (DVD±RW model(s)) Ulead® DVD MovieFactory® (DVD±RW model(s)) -Windows 8 models
IEEE 1394 adptr	No onboard 1394 ports; 1394 models: additional FireWire PCIe adapter, 1394a-2000, 400Mbps, two 6-pin ports on rear	Evernote® Norton Internet Security (30 days of virus definitions) Norton Studio
Audio Speaker Ethernet Security chip	High Definition (HD) Audio, Realtek® ALC662 codec Internal speaker for business audio One onboard gigabit ethernet, Intel 82579 STMicroelectronics ST33ZP24 Trusted Platform Module (TPM), TCG 1.2-compliant	Skype [™] Microsoft Office 2013 preloaded; purchase product key to activate Cyberlink Power2Go (DVD±RW model(s)) Cyberlink PowerProducer (DVD±RW model(s))
Keyboard Mouse Power supply	Preferred Pro USB Keyboard (USB connector), 104-key, black Optical Wheel Mouse (USB connector), black 280 watts with variable speed fan, autosensing, 85% PSU, Climate Savers® Computing Bronze, 80 PLUS® Bronze qualified	SECURITY Security chip (see information on left) Padlock loop (in rear for opt padlock; padlock prohibits side cover removal) Security slot (in rear for optional
Eco-Label and environmental certifications	GREENGUARD® certified RoHS-compliant EPEAT™ Gold rating ENERGY STAR 5.2-compliant	Kensington® Microsaver® cable; prohibits side cover removal) Power-on password Administrator password
ISV certifications	See the latest list of ISV certifications at www.lenovo.com/support/ISV	Boot sequence control Boot without keyboard, mouse
ThinkVantage Limited Warranty	Supports ThinkVantage® technologies 3-year parts and labor, more Lenovo® services see S-TS sheet	Soot without keyboard, mouse Serial port I/O control USB port disablement (front or all/individual) Chassis intrusion switch available on selected model(s) Mare compatible accessories, please see O-DEM sheet.

ThinkStation® E31 Tower (2552) - March 2013 - VI

Type- model ¹	Processor	Memory (MHz/ECC)	Memory DIMMs	Pre-conf RAID	Drive(s)	Media reader	SATA optical	Graphics adapter(s)	1394 adptr	PS/2 rear I/O	Chassis intrusion switch	Preload OS ²
2552-DZU	Xeon E3-1245V2	1600MHz ECC	1x4GB	No	1x1TB 3.5" SATA	Media	DVD±RW	Quadro K2000	No	No	Switch	Win8 Pro64
2552-E1U	Xeon E3-1275V2	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5" SATA	Media	DVD±RW	Quadro 410	No	No	Switch	Win8 Pro64
2552-E2U	Xeon E3-1275V2	1600MHz ECC	1x4GB	No	1x500GB 3.5" SATA	Media	DVD±RW	Quadro K600	No	No	Switch	Win8 Pro64
2552-E3U	Xeon E3-1275V2	1600MHz ECC	1x4GB	No	1x1TB 3.5" SATA	Media	DVD±RW	Quadro K2000	No	No	Switch	Win8 Pro64
2552-E4U	Core i3-2130	1600MHz Non-ECC	1x4GB	No	1x128GB SSD	Media	DVD±RW	Intel HD 2000	No	No	Switch	Win8 Pro64
2552-E5U	Core i5-3550	1600MHz Non-ECC	1x4GB	No	1x180GB SSD	Media	DVD±RW	Quadro 410	No	No	Switch	Win8 Pro64
2552-E6U	Core i7-3770	1600MHz Non-ECC	1x4GB	No	1x180GB SSD	Media	DVD±RW	Quadro K600	No	No	Switch	Win8 Pro64

	that this is a Global Model ndows 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit	
Processor	Intel® Core™ i3-2130 processor (2C/4T, 3.4GHz, 3MB Cache), integrated Intel HD Graphics 2000, DDR3 memory controller (up to 1333MHz) Intel® Core i5-3550 processor (4C/4T, 3.3GHz, 6MB Cache), integrated Intel HD Graphics 2500, Turbo Boost 2.0 (up to 3.7GHz), DDR3 memory controller (up to 1600MHz) Intel Core i7-3770 processor (4C/8T, 3.4GHz, 8MB Cache), integrated Intel HD Graphics 4000, Turbo Boost 2.0 (up to 3.9GHz), DDR3 memory controller (up to 1600MHz) Intel Xeon® E3-1245V2 processor (4C/8T, 3.4GHz, 8MB Cache), Turbo Boost 2.0 (up to 3.8GHz), integrated Intel HD Graphics P4000, DDR3 memory controller (up to 1600MHz) Intel Xeon E3-1275V2 processor (4C/8T, 3.5GHz, 8MB Cache), Turbo Boost 2.0 (up to 3.9GHz), integrated Intel HD Graphics P4000, DDR3 memory controller (up to 1600MHz)	Paven black cold 6.9"W x 17.0"D x 6.9"W x 431 27.56 lb (12.5kg) 25-liter Removable hand Toolless side cold Toolless disk and Toolless adapter Illuminated front Recessed power
Implementation	One LGA1155 socket	Bay 1: 5.25", 1.6" high, access,
Memory Additional memory disclaimers	32GB max, UDIMM, PC3-12800 1600MHz DDR3, ECC or non-ECC, four 240-pin DIMM sockets; • Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs • Mixing of ECC and non-ECC memory is not supported	Bay 2: 5.25", 1.6" high, access, Bay 3: 3.5", 1" high, access, Bay 4: 3.5", 1" high, internal, Bay 5: 3.5", 1" high, internal,
Graphics	Some: Intel HD Graphics in processor, uses main memory, works along with discrete graphics to support multi-display; (detailed graphics model name please see Processor section, connector information please see Rear ports section) Some: NVIDIA® Quadro® 410, PCle x16 adapter, 512MB, one DisplayPort, one dual-link DVI-I, 37W Some: NVIDIA Quadro K600, PCle x16 adapter, 1GB, one DisplayPort, one dual-link DVI-I, 41W Some: NVIDIA Quadro K2000, PCle x16 adapter, 2GB, two DisplayPort, one dual-link DVI-I, 51W	Slot 1: half-length, full-height, PCle (75w max, near CPU) * PCle 2.0 x16 on Core i3/Pentium/Celex x16 on Xeon/Core i5/Core i7 models Slot 2: half-length, full-height, PCle Slot 3: half-length, full-height, 32-bi Slot 4: half-length, full-height, 32-bi Intel AMT Intel AMT supported on model(s) Preloaded operating
Media reader Optical Drive(s)	29-in-1 Media card reader in selected models, internal USB 2.0 DVD, DVD±RW, or Blu-ray, depending on model 3.5" SATA: SATA 6.0Gb/s, 7200 rpm, 3.5" 2.5" SATA: SATA 6.0Gb/s, 10000 rpm, 2.5" SSD: Solid State Drive, SATA 6.0Gb/s, 2.5" Two SATA 6.0Gb/s connectors (red), two SATA 3.0Gb/s connectors (orange),	Some: Windows® 7 Professional 6 Professional 7 Professional 6 Professional 7 Professional 8 Profession 8 Pr
Onboard SAS	RAID 0, 1 support via Intel C216 Chipset None	Preloaded applications (a -Windows 7 models - Rescue and Recovery -
Chipset	Intel C216 Chipset	 Norton™ Internet Security (30 days
Front ports Rear ports	Two USB 2.0, microphone (3.5mm), headphone (3.5mm) Two USB 2.0, four USB 3.0 (blue), one serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in), one analog VGA DB-15 connector, one DisplayPort connector (Onboard VGA and DisplayPort TM are functional when the following processors are used: Xeon E3-12X5V2, Core i7, i5, i3, Pentium, and Celeron processors) PS/2 models: additional PS/2 keyboard and mouse connectors via PS/2 rear I/O cable	purchase product key to activate Corel® WinDVD® (DVD±RW mod Ulead® DVD MovieFactory® (DVI -Windows 8 models Evernote® Norton Internet Security (30 day
Audio	No onboard 1394 ports; 1394 models: additional FireWire PCle adapter, 1394a-2000, 400Mbps, two 6-pin ports on rear High Definition (HD) Audio, Realtek ALC662 codec	Norton Studio Skype™ Microsoft Office 2013 preloaded purchase product key to activate Cyberlink Power2Go (DVD±RW)
Speaker Ethernet Security chip	Internal speaker for business audio One onboard gigabit ethernet, Intel 82579 STMicroelectronics ST33ZP24 Trusted Platform Module (TPM), TCG 1.2-compliant	Cýberlink PowerProdùcer (DVD± SECURITY
Keyboard Mouse Power supply	Preferred Pro USB Keyboard (USB connector), 104-key, black Optical Wheel Mouse (USB connector), black 280 watts with variable speed fan, autosensing, 85% PSU, Climate Savers® Computing Bronze, 80 PLUS® Bronze qualified	Security chip (see information of Padlock loop (in rear for opt pad padlock prohibits side cover rem Security slot (in rear for optional Kensington® Microsaver® cable; prohibits side cover removal)
Eco-Label and environmental certifications	GREENGUARD® certified RoHS-compliant EPEAT™ Gold rating ENERGY STAR 5.2-compliant	Power-on password Administrator password Boot sequence control Boot without keyboard, mouse
ISV certifications	See the latest list of ISV certifications at www.lenovo.com/support/ISV	Serial port I/O control

See the latest list of ISV certifications at www.lenovo.com/support/ISV

3-year parts and labor, more Lenovo® services see S-TS sheet

Supports ThinkVantage® technologies

- lor; metal case
- 0 x 16.7"H (with handle) 11mm D x 425mm H
- g) max configuration
- ndle on top front
- over removal
- nd optical drive removal

for disk

- er retention
- nt icons
- er button

for optical open for media reader for disk

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le 2.0 x1 bit PCI 2.3 bit PCI 2.3

with Xeon processor

ng system²⁰

al 64 64 vngrade 64-bit

(only some listed)

- days of virus definitions)

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- V model(s)) D±RW model(s))
- on left) adlock;
- moval)
- al e;
- Boot sequence control
- Boot without keyboard, mouse
- Serial port I/O control
- USB port disablement (front or all/individual)
- Chassis intrusion switch available on selected model(s)

More compatible accessories, please see O-DEM sheet

ISV certifications

Limited Warranty

ThinkVantage

ThinkStation® E31 Tower (2552) - March 2013 - VII

Type- model ¹	Processor	Memory (MHz/ECC)	Memory DIMMs	Pre-conf RAID	Drive(s)	Media reader	SATA optical	Graphics adapter(s)	1394 adptr	PS/2 rear I/O	Chassis intrusion switch	Preload OS ²
2552-E7U	Xeon E3-1230V2	1600MHz Non-ECC	1x4GB	No	1x180GB SSD	Media	DVD±RW	Quadro 410	No	No	Switch	Win8 Pro64
2552-E8U	Xeon E3-1245V2	1600MHz ECC	1x4GB	No	1x180GB SSD	Media	DVD±RW	Quadro 410	No	No	Switch	Win8 Pro64
2552-E9U	Xeon E3-1275V2	1600MHz ECC	1x4GB	No	1x256GB SSD	Media	DVD±RW	Quadro K600	No	No	Switch	Win8 Pro64

- 1 Model in italics shows that this is a Global Model

	that this is a Global Model ndows 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit	
Processor Implementation	Intel® Xeon® E3-1230V2 processor (4C/8T, 3.3GHz, 8MB Cache), Turbo Boost 2.0 (up to 3.7GHz), DDR3 memory controller (up to 1600MHz) Intel Xeon E3-1245V2 processor (4C/8T, 3.4GHz, 8MB Cache), Turbo Boost 2.0 (up to 3.8GHz), integrated Intel HD Graphics P4000, DDR3 memory controller (up to 1600MHz) Intel Xeon E3-1275V2 processor (4C/8T, 3.5GHz, 8MB Cache), Turbo Boost 2.0 (up to 3.9GHz), integrated Intel HD Graphics P4000, DDR3 memory controller (up to 1600MHz) One LGA1155 socket	Paven black color; metal case 6.9"W x 17.0"D x 16.7"H (with handle) 175mm W x 431mm D x 425mm H 27.56 lb (12.5kg) max configuration 25-liter Removable handle on top front Toolless side cover removal Toolless disk and optical drive removal
Memory	32GB max, UDIMM, PC3-12800 1600MHz DDR3, ECC or non-ECC,	Toolless adapter retention
Additional memory disclaimers	four 240-pin DIMM sockets; • Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs • Mixing of ECC and non-ECC memory is not supported	Illuminated front icons Recessed power button Bay 1: 5.25", 1.6" high, access, for optical
Graphics	Some: NVIDIA® Quadro® 410, PCIe x16 adapter, 512MB, one DisplayPort, one dual-link DVI-I, 37W Some: NVIDIA Quadro K600, PCIe x16 adapter, 1GB, one DisplayPort, one dual-link DVI-I, 41W	Bay 2: 5.25", 1.6" high, access, open Bay 3: 3.5", 1" high, access, for media reader Bay 4: 3.5", 1" high, internal, for disk Bay 5: 3.5", 1" high, internal, for disk
Media reader Optical Drive(s) Onboard SATA	29-in-1 Media card reader in selected models, internal USB 2.0 DVD, DVD±RW, or Blu-ray, depending on model 3.5" SATA: SATA 6.0Gb/s, 7200 rpm, 3.5" 2.5" SATA: SATA 6.0Gb/s, 10000 rpm, 2.5" SSD: Solid State Drive, SATA 6.0Gb/s, 2.5" Two SATA 6.0Gb/s connectors (red), two SATA 3.0Gb/s connectors (orange), RAID 0, 1 support via Intel C216 Chipset	Slot 1: half-length, full-height, PCIe* x16 (75w max, near CPU) * PCIe 2.0 x16 on Core i3/Pentium/Celeron models, PCIe 3.0 x16 on Xeon/Core i5/Core i7 models Slot 2: half-length, full-height, PCIe 2.0 x1 Slot 3: half-length, full-height, 32-bit PCI 2.3 Slot 4: half-length, full-height, 32-bit PCI 2.3
Onboard SAS	None	Intel AMT
Chipset Front ports	Two USB 2.0, microphone (3.5mm), headphone (3.5mm)	Intel AMT supported on model(s) with Xeon processor
Rear ports	Two USB 2.0, four USB 3.0 (blue), one serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in), one analog VGA DB-15 connector, one DisplayPort connector (Onboard VGA and DisplayPort™ are functional when the following processors are used: Xeon E3-12X5V2, Core i7, i5, i3, Pentium, and Celeron processors) PS/2 models: additional PS/2 keyboard and mouse connectors via PS/2 rear I/O cable	Preloaded operating system ²⁰ Some: Windows® 7 Professional 64 Some: Windows 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit Some: Windows 8 Pro 64-bit
IEEE 1394 adptr	No onboard 1394 ports; 1394 models: additional FireWire PCIe adapter, 1394a-2000, 400Mbps, two 6-pin ports on rear	Preloaded applications ⁵ (only some listed) -Windows 7 models • Rescue and Recovery®
Audio Speaker Ethernet Security chip	High Definition (HD) Audio, Realtek® ALC662 codec Internal speaker for business audio One onboard gigabit ethernet, Intel 82579 STMicroelectronics ST33ZP24 Trusted Platform Module (TPM),	 Norton™ Internet Security (30 days of virus definitions) Adobe® Reader® Microsoft® Office 2013 preloaded; purchase product key to activate Corel® WinDVD® (DVD±RW model(s))
	TCG 1.2-compliant	Ulead® DVD MovieFactory® (DVD±RW model(s))
Keyboard Mouse Power supply	Preferred Pro USB Keyboard (USB connector), 104-key, black Optical Wheel Mouse (USB connector), black 280 watts with variable speed fan, autosensing, 85% PSU, Climate Savers® Computing Bronze, 80 PLUS® Bronze qualified	-Windows 8 models Evernote® Norton Internet Security (30 days of virus definitions) Norton Studio Clare TM
Eco-Label and environmental certifications	GREENGUARD® certified RoHS-compliant EPEAT™ Gold rating ENERGY STAR 5.2-compliant	 Skype[™] Microsoft Office 2013 preloaded; purchase product key to activate Cyberlink Power2Go (DVD±RW model(s)) Cyberlink PowerProducer (DVD±RW model(s))
ISV certifications	See the latest list of ISV certifications at www.lenovo.com/support/ISV	SECURITY
ThinkVantage Limited Warranty	Supports ThinkVantage® technologies 3-year parts and labor, more Lenovo® services see S-TS sheet	Security chip (see information on left) 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 Serial port I/O control USB port disablement (front or all/individual) Chassis intrusion switch available on selected model(s)

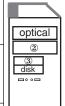
ThinkStation® E31 Tower (2552) - May 2013

Type- model ¹	Processor	Memory (MHz/ECC)	Memory DIMMs	Pre-conf RAID	Drive(s)	Media reader	SATA optical	Graphics adapter(s)	1394 adptr	PS/2 rear I/O	Chassis intrusion switch	Preload OS ²
2552-EAU	Xeon E3-1290V2	1600MHz ECC	8GBx1	No	1x1TB 3.5" SATA	Media	DVD±RW	Quadro K2000	No	No	Switch	Win7 Pro64(DG)
2552-EBU	Xeon E3-1290V2	1600MHz ECC	8GBx1	No	1x1TB 3.5" SATA	Media	DVD±RW	Quadro K2000	No	No	Switch	Win8 Pro64
2552-ECU	Xeon E3-1280V2	1600MHz ECC	8GBx1	No	1x1TB 3.5" SATA	Media	DVD±RW	Quadro K2000	No	No	Switch	Win8 Pro64
2552-EDU	Xeon E3-1280V2	1600MHz ECC	8GBx1	No	1x1TB 3.5" SATA	Media	DVD±RW	Quadro K2000	No	No	Switch	Win7 Pro64(DG)

- Model in italics shows that this is a Global Model
 Win7 Pro64(DG) = Windows 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit

Processor	Intel® Xeon® E3-1280V2 processor (4C/8T, 3.6GHz, 8MB Cache), Turbo Boost 2.0 (up to 4.0GHz), DDR3 memory controller (up to 1600MHz) Intel Xeon E3-1290V2 processor (4C/8T, 3.7GHz, 8MB Cache), Turbo Boost 2.0 (up to 4.1GHz), DDR3 memory controller (up to 1600MHz)	
Implementation	One LGA1155 socket	
Memory	32GB max, UDIMM, PC3-12800 1600MHz DDR3, ECC or non-ECC, four 240-pin DIMM sockets;	
Additional memory disclaimers	 Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs Mixing of ECC and non-ECC memory is not supported 	
Graphics	NVIDIA® Quadro® K2000 , PCIe x16 adapter, 2GB, two DisplayPort™, one dual-link DVI-I, 51W	
Media reader Optical Drive(s)	29-in-1 Media card reader in selected models, internal USB 2.0 DVD, DVD±RW, or Blu-ray, depending on model 3.5" SATA: SATA 6.0Gb/s, 7200 rpm, 3.5" 2.5" SATA: SATA 6.0Gb/s, 10000 rpm, 2.5" SSD: Solid State Drive, SATA 6.0Gb/s, 2.5"	
Onboard SATA	Two SATA 6.0Gb/s connectors (red), two SATA 3.0Gb/s connectors (orange), RAID 0, 1 support via Intel C216 Chipset	
Onboard SAS	None	1
Chipset Front ports	Intel C216 Chipset Two USB 2.0, microphone (3.5mm), headphone (3.5mm)	┨
Rear ports	Two USB 2.0, fluctophotie (3.5fmin), fleadphotie (3.5fmin), one USB 2.0, four USB 3.0 (blue), one serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in), one analog VGA DB-15 connector, one DisplayPort connector (Onboard VGA and DisplayPort TM are functional when the following processors are used: Xeon E3-12X5V2, Core i7, i5, i3, Pentium, and Celeron processors) PS/2 models: additional PS/2 keyboard and mouse connectors via PS/2 rear I/O cable	-
IEEE 1394 adptr	No onboard 1394 ports; 1394 models: additional FireWire PCIe adapter, 1394a-2000, 400Mbps, two 6-pin ports on rear	
Audio Speaker Ethernet Security chip	High Definition (HD) Audio, Realtek® ALC662 codec Internal speaker for business audio One onboard gigabit ethernet, Intel 82579 STMicroelectronics ST33ZP24 Trusted Platform Module (TPM), TCG 1.2-compliant	
Keyboard Mouse Power supply	Preferred Pro USB Keyboard (USB connector), 104-key, black Optical Wheel Mouse (USB connector), black 280 watts with variable speed fan, autosensing, 85% PSU, Climate Savers® Computing Bronze, 80 PLUS® Bronze qualified	
Eco-Label and environmental certifications	GREENGUARD® certified RoHS-compliant EPEAT™ Gold rating ENERGY STAR 5.2-compliant	
ISV certifications	See the latest list of ISV certifications at www.lenovo.com/support/ISV	1
		1
ThinkVantage Limited Warranty	Supports ThinkVantage® technologies 3-year parts and labor, more Lenovo® services see S-TS sheet	1

Tower



- Raven black color; metal case
- 6.9"W x 17.0"D x 16.7"H (with handle)
- 175mm W x 431mm D x 425mm H 27.56 lb (12.5kg) max configuration
- 25-liter
- Removable handle on top front
- Toolless side cover removal
- Toolless disk and optical drive removal
- Toolless adapter retention
- Illuminated front icons
- · Recessed power button

Bay 1: 5.25", 1.6" high, access, Bay 2: 5.25", 1.6" high, access, Bay 3: 3.5", 1" high, access, Bay 4: 3.5", 1" high, internal, Bay 5: 3.5", 1" high, internal, for optical open for media reader

for disk for disk

Slot 1: half-length, full-height, PCIe* x16 (75w max, near CPU)

PCIe 2.0 x16 on Core i3/Pentium/Celeron models. PCIe 3.0 x16 on Xeon/Core i5/Core i7 models

Slot 2: half-length, full-height, PCIe 2.0 x1 Slot 3: half-length, full-height, 32-bit PCI 2.3 Slot 4: half-length, full-height, 32-bit PCI 2.3

Intel AMT

Intel AMT supported on model(s) with Xeon processor

Preloaded operating system²⁰ Windows® 7 Professional 64 Some: Windows 7 Professional 64 Some:

preinstalled through downgrade rights in Windows 8 Pro 64-bit

Windows 8 Pro 64-bit

Preloaded applications⁵ (only some listed)

-Windows 7 models

- Rescue and Recovery®
 Norton™ Internet Security (30 days of virus definitions)
- Adobe® Reader®
- Microsoft® Office 2013 preloaded; purchase product key to activate
- Corel® WinDVD® (DVD±RW model(s))
 Ulead® DVD MovieFactory® (DVD±RW model(s))

-Windows 8 models

- Evernote^o
- 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))

- Security chip (see information on left) 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
- Serial port I/O control
- USB port disablement (front or all/individual)
- Chassis intrusion switch available on selected model(s)

ThinkStation® E31 Tower (2553) - GMP

										Chassis		
Type-	Memory	Memory	Pre-conf		Media	SATA	Graphics	1394		intrusion	PS/2	Win7
model Processor	(MHz/ECC)	DIMMs	RAID	Disk(s)	reader	optical	adapter(s)	adptr	Global	switch	rear I/O	preload
2553-11U Xeon E3-1240V2	1600MHz ECC	2x2GB	No	1x1TB SATA	Media	DVD±RW	Quadro 600	No	Global		PS/2	Pro 64
2553-12U Xeon E3-1225V2	1600MHz ECC	2x2GB	No	1x1TB SATA	Media	DVD±RW	Quadro 600	No	Global	Switch		Pro 64
2553-13U Xeon E3-1270V2	1600MHz ECC	2x2GB	No	1x2TB SATA	Media	DVD±RW	Quadro 2000	No	Global			Pro 64
2553-14U Xeon E3-1275V2	1600MHz ECC	2x2GB	No	1x256GB SSD	Media	DVD±RW	Intel HD P4000	No	Global	Switch		Pro 64
2553-15U Xeon E3-1290V2	1600MHz ECC	2x2GB	No	1x256GB SSD	Media	DVD±RW	Quadro 2000	No	Global	Switch		Pro 64
2553-18U Core i3-2130	1600MHz ECC	1x4GB	No	1x500GB SATA	Media	DVD±RW	Quadro 400	No	Global	Switch	PS/2	Pro 64
2553-21U Xeon E3-1245V2	1600MHz ECC	1x4GB	No	1x500GB SATA	Media	DVD±RW	Quadro 600	No	Global	Switch	PS/2	Pro 64

Iurob Boost 2.0 (up to 85Hzt), integrated their HU Graphics P4000, Iurob Boost 2.0 (up to 85Hzt), integrated (ABR Cache), Iurob Boost 2.0 (up to 85Hzt), DRS memory controller (up to 1600MHz) Intel Xeon E31245V2 processor (40RT 3.46Hz, 8MB Cache), Iurob Boost 2.0 (up to 85Hzt), integrated intel HD Graphics P4000, Intel Xeon E312470V2 processor (40RT 3.46Hz, 8MB Cache), Iurob Boost 2.0 (up to 3.96Hz), DRS memory controller (up to 1600MHz) Intel Xeon E312470V2 processor (40RT 3.56Hz, 8MB Cache), Iurob Boost 2.0 (up to 3.96Hz), DRS memory controller (up to 1600MHz) Intel Xeon E312470V2 processor (40RT 3.56Hz, 8MB Cache), Iurob Boost 2.0 (up to 4.96Hz), DRS memory controller (up to 1600MHz) Intel Xeon E31250V2 processor (40RT 3.56Hz, 8MB Cache), Iurob Boost 2.0 (up to 4.96Hz), DRS memory controller (up to 1600MHz) Intel Xeon E31250V2 processor (40RT 3.56Hz, 8MB Cache), Iurob Boost 2.0 (up to 4.16Hz), DDRS memory controller (up to 1600MHz) Intel Xeon E31250V2 processor (40RT 3.56Hz, 8MB Cache), Iurob Boost 2.0 (up to 4.16Hz), DDRS memory controller (up to 1600MHz) Intel Xeon E31250V2 processor (40RT 3.56Hz, 8MB Cache), Iurob Boost 2.0 (up to 4.16Hz), DDRS memory controller (up to 1600MHz) Intel Xeon E31250V2 processor (40RT 3.56Hz, 8MB Cache), Iurob Boost 2.0 (up to 4.16Hz), DDRS memory controller (up to 1600MHz) Iurob Boost 2.0 (up to 4.16Hz), DDRS memory controller (up to 1600MHz) Iurob Boost 2.0 (up to 4.16Hz), DDRS memory controller (up to 1600MHz), Iurob Boost 2.0 (up to 4.16Hz), DDRS memory controller (up to 1600MHz), Iurob Boost 2.0 (up to 4.16Hz), DDRS memory controller (up to 1600MHz), Iurob Boost 2.0 (up to 4.16Hz), DDRS memory controller (up to 1600MHz), Iurob Boost 2.0 (up to 4.26Hz), Iuro		Part of the Global Models Plus (GMP) program with limited onsite service 3-year lim	ited warranty
Memory 32GB max UDIMM PC3-12800 1600MHz DDR3 ECC or non-ECC, four 24Ch-in DIMM sockets; Additional memory Actual memory operating speed depends on processor memory clinidad (scislaimers Actual memory operating speed depends on processor memory clinidad (scislaimers Actual memory operating speed depends on processor memory clinidad (scislaimers Actual memory operating speed depends on processor memory clinidad (scislaimers Actual memory operating speed depends on processor memory clinidad (scislaimers Actual memory operating speed depends on processor memory clinidad (scislaimers Actual memory operating speed depends on processor memory clinidad (scislaimers Actual memory operating speed depends on processor memory clinidad (scislaimers Actual memory operating speed depends on processor memory clinidad (scislaimers Actual memory operating speed depends on processor memory clinidad (scislaimers Actual memory operating speed depends on processor memory clinidad (scislaimers Actual memory operating speed depends on processor memory clinidad (scislaimers Actual memory operating speed depends on processor memory clinidad (scislaimers Actual memory operating speed depends on processor memory clinidad (scislaimers Actual memory operating speed depends on processor memory clinidad (scislaimers Actual memory operations Actual memory operating speed depends on processor memory clinidad (scislaimers Actual memory operations Actual memory op		integrated Intel HD Graphics 2000, DDR3 memory controller (up to 1333MHz) Intel Xeon® E3-1225V2 processor (4C/4T, 3.2GHz, 8MB Cache), Turbo Boost 2.0 (up to 3.6GHz), integrated Intel HD Graphics P4000, DDR3 memory controller (up to 1600MHz) Intel Xeon E3-1240V2 processor (4C/8T, 3.4GHz, 8MB Cache), Turbo Boost 2.0 (up to 3.8GHz), DDR3 memory controller (up to 1600MHz) Intel Xeon E3-1245V2 processor (4C/8T, 3.4GHz, 8MB Cache), Turbo Boost 2.0 (up to 3.8GHz), integrated Intel HD Graphics P4000, DDR3 memory controller (up to 1600MHz) Intel Xeon E3-1270V2 processor (4C/8T, 3.5GHz, 8MB Cache), Turbo Boost 2.0 (up to 3.9GHz), DDR3 memory controller (up to 1600MHz) Intel Xeon E3-1275V2 processor (4C/8T, 3.5GHz, 8MB Cache), Turbo Boost 2.0 (up to 3.9GHz), integrated Intel HD Graphics P4000, DDR3 memory controller (up to 1600MHz) Intel Xeon E3-1290V2 processor (4C/8T, 3.7GHz, 8MB Cache), Turbo Boost 2.0 (up to 4.1GHz), DDR3 memory controller (up to 1600MHz)	• Raven black color; metal case • 6.9"W x 17.0"D x 16.7"H (with handle) • 175mm W x 431mm D x 425mm H • 27.56 lb (12.5kg) max configuration • 25-liter • Removable handle on top front • Toolless side cover removal • Toolless disk and optical drive removal • Toolless adapter retention • Illuminated front icons • Recessed power button Bay 1: 5.25", 1.6" high, access, open Bay 3: 3.5", 1" high, access, for optical
Additional memory of actual memory operating speed depends on processor memory clinides claimers Additional memory operating speed depends on processor memory of the disclaimers Additional memory operating speed depends on processor memory of the disclaimers Additional memory operating speed displayed and quantity of memory DIMMs Additional memory operating speed installed memory speed and quantity of memory DIMMs Additional memory operating speed installed memory speed and quantity of memory DIMMs Additional memory operating speed depends on processor memory of the disclaimers Additional memory operating speed installed memory speed and quantity of memory DIMMs Additional memory operating speed displayed and processor memory of the disclaimers Additional memory operating speed displayed and processor memory of the displayed and processor processor. Additional memory operating speed displayed and processor memory of the displayed and processor processor. Additional memory operating speed displayed and processor and processor processor. Additional memory operating speed displayed and processor speed displayed and processor processor. Additional memory operating speed displayed and processor speed displayed and processor processor. Additional memory operating speed displayed and processor speed displayed and processor processor. Additional memory operating supply and processor processor processor. Additional memory operating supply and processor processor processor. Additional memory operating supply and processor processor processor. Additional memory operating processor processor processor processor. Additional memory operating processor processor processor processor. Additional memory operating processor processor processor. Additional processor processor processor processor processor processor. Additional processor processor processor processor processor processor. Additional processor processor processor processor processor. Additional processor processor processor processor processor		32GB max, UDIMM, PC3-12800 1600MHz DDR3, ECC or non-ECC,	Bay 4: 3.5", 1" high, internal, for disk Bay 5: 3.5", 1" high, internal, for disk
Some: Intel HD Graphics in processor, uses main memory, works along with discrete graphics to support multi-display; Xeon E3-1225/2130. Intel HD Graphics 2000 (connector information please see Rear ports section) Some: NVIDIA Quadro* 400, PCle x 16 adapter, 13BM, one DisplayPort*, one dual-link DVI-I, 32W Some: NVIDIA Quadro* 400, PCle x 16 adapter, 13BM, one DisplayPort, one dual-link DVI-I, 40W Some: NVIDIA Quadro* 400, PCle x 16 adapter, 13BM, one DisplayPort, one dual-link DVI-I, 40W Some: NVIDIA Quadro* 2000, PCle x 16 adapter, 13BM, one DisplayPort, one dual-link DVI-I, 62W Media reader Optical Disk(s) Media reader Optical Super Multi-Burner DL DVD±RW SATA 1, 506b's Drive 250GB/s00GB/17BZ/87BZ/8T. SATA 6, 06b/s, 10000 rpm, 2.5* 150GB/s00GB/17BZ/87BZ/8T. SATA 8, 06b/s, 200 rpm, 3.5* 123GB/s00GB/80GB/85D: Solid State Drive, SATA 6, 06b/s, 2.50* RAID 0, 1 support via Intel C216 Chipset Two SATA 6, 06b/s connectors (red), two SATA 3, 06b/s connectors (orange), RAID 0, 1 support via Intel C216 Chipset Two USB 2.0, increphone (3,5mm), headphone (3,5mm) None Two USB 2.0, increphone (3,5mm), headphone (3,5mm) Two USB 2.0, increphone (3,5mm), he	Additional memory disclaimers	 Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs 	* PCIe 2.0 x16 on Core i3/Pentium/Celeron models, PCIe 3.0
one DisplayPort, one dual-link DVI-I, 40W Some: NVIDIA Quadro 2000, PCIe x16 adapter, 1GB, two DisplayPort, one dual-link DVI-I, 62W Media: 29-in-1 Media card reader, internal USB 2.0 Optical Super Multi-Burner DL DVD±RW SATA 1.5Gb/s Drive Disk(s) 250GB/500GB/1TB/2TB/3TB SATA: SATA 6.0Gb/s, 7200 rpm, 3.5" 155GB/300GB/60GB SATA: SATA 6.0Gb/s, 7200 rpm, 3.5" 128GB/180GB/256GB SSD: Solid State Drive, SATA 6.0Gb/s, 2.5" Onboard SATA	Graphics	discrete graphics to support multi-display; Xeon E3-1225V2/1245V2/1275V2: Intel HD Graphics P4000 Core i3-2120/2130: Intel HD Graphics 2000 Pentium/Celeron: Intel HD Graphics (connector information please see Rear ports section) Some: NVIDIA® Quadro® 400, PCle x16 adapter, 512MB, one DisplayPort™, one dual-link DVI-I. 32W	Slot 2: half-length, full-height, PCIe 2.0 x1 Slot 3: half-length, full-height, 32-bit PCI 2.3 Slot 4: half-length, full-height, 32-bit PCI 2.3
Media: 29-in-1 Media card reader, internal USB 2.0		one DisplayPort, one dual-link DVI-I, 40W Some: NVIDIA Quadro 2000, PCIe x16 adapter, 1GB,	Intel AMT supported on model(s) with Xeon processor
Two USB 2.0, microphone (3.5mm), headphone (3.5mm) Two USB 2.0, four USB 3.0 (blue), one serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in), one analog VGA DB-15 connector, one DisplayPort connector (Onboard VGA and DisplayPort are functional when the following processors are used: Xeon E3-1225V2/1245V2/1275V2, Core i3-2120/2130, Pentium, and Celeron processors) PS/2 models: additional PS/2 keyboard and mouse connectors via PS/2 rear I/O cable No onboard 1394 ports; 1394 models: additional FireWire PCle adapter, 1394a-2000, 400Mbps, two 6-pin ports on rear Audio High Definition (HD) Audio, Realtek® ALC662 codec Internal speaker for business audio Speaker Security chip STMicroelectronics ST33ZP24 Trusted Platform Module (TPM), TCG 1.2-compliant Keyboard Mouse Optical Wheel Mouse (USB connector), 104-key, black Optical Wheel Mouse (USB connector), 104-key, black Climate Savers® Computing Bronze, 80 PLUS® Bronze qualified * Ulead® DVD MovieFactory® (DVD±RW model(s)) **Security* hire analog void (RJ-45), three analog vGA DB-15 connector, one onheard (9-pin), one ethernet (RJ-45), three analog vGA DB-15 connector, one onheard (9-pin), one ethernet (RJ-45), three analog vGA DB-15 connector, one onheard (9-pin), one ethernet (RJ-45), three analog vGA DB-15 connector, one onheard (9-pin), one ethernet (RJ-45), three analog vGA DB-15 connector, one onheard (9-pin), one ethernet (RJ-45), three analog vGA DB-15 connector, one DisplayPort void vibid vibid (policy from the following processors are used: Xeon E3-1225V2/1245V2/1275V2, Core i3-2120/2130, Pentium, and Kensington® (Microsaver® cable; prohibits side cover removal) **Security chip (see information on left) **Padlock loop (in rear for opt padlock; padlock; padlock prohibits side cover removal) **Security chip (see information on left) **Padlock loop (in rear for opt padlock; padlock; padlock prohibits side cover removal) **New internal propertion of propertion (PD-2-value) **Security slot (in rear for opt padlock	Optical Disk(s) Onboard SATA	Media: 29-in-1 Media card reader, internal USB 2.0 Super Multi-Burner DL DVD±RW SATA 1.5Gb/s Drive 250GB/500GB/1TB/2TB/3TB SATA: SATA 6.0Gb/s, 7200 rpm, 3.5" 150GB/300GB/600GB SATA: SATA 6.0Gb/s, 10000 rpm, 2.5" 128GB/180GB/256GB SSD: Solid State Drive, SATA 6.0Gb/s, 2.5" Two SATA 6.0Gb/s connectors (red), two SATA 3.0Gb/s connectors (orange), RAID 0, 1 support via Intel C216 Chipset	Windows® 7 Professional 64 Preloaded applications⁵ (only some listed) Rescue and Recovery® Norton® Internet Security (30 days of virus definitions) Adobe® Reader® Microsoft® Office 2013 preloaded; purchase product key to activate
Two USB 2.0, four USB 3.0 (blue), one serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in), one analog VGA DB-15 connector, one DisplayPort connector (Onboard VGA and DisplayPort are functional when the following processors are used: Xeon E3-1225V2/1245V2/1275V2, Core i3-2120/2130, Pentium, and Celeron processors) PS/2 models: additional PS/2 keyboard and mouse connectors via PS/2 rear I/O cable No onboard 1394 ports; 1394 models: additional FireWire PCle adapter, 1394a-2000, 400Mbps, two 6-pin ports on rear Audio Speaker Ethernet One onboard gigabit ethernet, Intel 82579 Security chip Keyboard Mouse Optical Wheel Mouse (USB connector), black Power supply Reyboard Mouse Climate Savers® Computing Bronze, 80 PLUS® Bronze qualified Two USB 2.0 (folue), one serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in), one ethernet (RJ-45), three analog valid (9-pin), one ethernet (RJ-45), three analog valid (9-pin), one ethernet (RJ-45), three analog valid (9-pin), one ethernet (RJ-45), three analog valid (10-pin), one ethernet (RJ-45), three analog valid valid (10-pin), one ethernet (RJ-45), three analog validock prohibits side cover removal) Security solt (in rear for opt padlock; padlock prohibits side cover removal) Security solt (in rear for optional Kensington Microsaver® cable; prohibits side cover removal) Power-on password Administrator password Boot sequence control Boot without keyboard, mouse Serial port I/O control USB port disablement (front or all/individual) Chassis intrusion switch available on selected model(stable) ISV certifications Please visit www.lenovo.com/support/ISV GREENGUARD® certified RoHS-compliant EPEAT™ Gold rating ENERGY STAR 5.2-compliant			
IEEE 1394 adptr No onboard 1394 ports; 1394 models: additional FireWire PCle adapter, 1394a-2000,		Two USB 2.0, four USB 3.0 (blue), one serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in), one analog VGA DB-15 connector, one DisplayPort connector (Onboard VGA and DisplayPort are functional when the following processors are used: Xeon E3-1225V2/1245V2/1275V2, Core i3-2120/2130, Pentium, and Celeron processors) PS/2 models: additional PS/2 keyboard and mouse connectors	Security chip (see information on left) 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
Speaker Ethernet Security chip	•	No onboard 1394 ports; 1394 models: additional FireWire PCIe adapter, 1394a-2000, 400Mbps, two 6-pin ports on rear	Boot sequence control Boot without keyboard, mouse Serial port I/O control
TCG 1.2-compliant Keyboard Mouse Power supply Power supply Power Supply Preferred Pro USB Keyboard (USB connector), 104-key, black Optical Wheel Mouse (USB connector), black 280 watts with variable speed fan, autosensing, 85% PSU, Climate Savers® Computing Bronze, 80 PLUS® Bronze qualified ENERGY STAR 5.2-compliant ENERGY STAR 5.2-compliant	Speaker Ethernet	Internal speaker for business audio One onboard gigabit ethernet, Intel 82579	Chassis intrusion switch available on selected model(s)
Mouse Optical Wheel Mouse (USB connector), black Power supply 280 watts with variable speed fan, autosensing, 85% PSU, Climate Savers® Computing Bronze, 80 PLUS® Bronze qualified Limital Warrants 280 watts with variable speed fan, autosensing, 85% PSU, Climate Savers® Computing Bronze, 80 PLUS® Bronze qualified Limital Warrants 280 watts with variable speed fan, autosensing, 85% PSU, Climate Savers® Computing Bronze, 80 PLUS® Bronze qualified Limital Warrants 280 watts with variable speed fan, autosensing, 85% PSU, Climate Savers® Computing Bronze, 80 PLUS® Bronze qualified		TCG 1.2-compliant	Please visit www.lenovo.com/support/ISV
Limited Warranty 3-year parts and labor; more Lenovo® services see on S-TS sheet More compatible accessories, please see O-DEM sheet	Mouse	Optical Wheel Mouse (USB connector), black 280 watts with variable speed fan, autosensing, 85% PSU,	RoHS-compliant EPEAT™ Gold rating
	Limited Warranty	3-year parts and labor; more Lenovo® services see on S-TS sheet	More compatible accessories, please see O-DEM sheet

ThinkStation® E31 Tower (2553) - GMP II

											Chassis		
Type-		Memory	Memory I	Pre-conf		Media	SATA	Graphics	1394		intrusion	PS/2	Win7
model	Processor	(MHz/ECC)	DIMMs	RAID	Disk(s)	reader	optical	adapter(s)	adptr	Global	switch	rear I/O	preload
2553-16L	J Core i7-3770	1600MHz Non-ECC	1x4GB	No	180GB SSD+1TB SATA	Media	DVD±RW	Intel HD 4000	No	Global	Switch		Pro 64
2553-17L	J Xeon E3-1225V2	1600MHz ECC	1x4GB	No	1x500GB SATA		DVD±RW	Intel HD P4000	No	Global	Switch		Pro 64
2553-19L	J Core i7-3770	1600MHz Non-ECC	1x4GB	No	1x500GB SATA	Media	DVD±RW	Quadro 2000	No	Global	Switch	PS/2	Pro 64

• Part of the Global Models Plus (GMP) program with limited onsite service 3-year limited warranty

Processor	Intel® Core™ i7-3770 processor (4C/8T, 3.4GHz, 8MB Cache), integrated Intel HD Graphics 4000, Turbo Boost 2.0 (up to 3.9GHz), DDR3 memory controller (up to 1600MHz) Intel Xeon® E3-1225V2 processor (4C/4T, 3.2GHz, 8MB Cache), Turbo Boost 2.0 (up to 3.6GHz), integrated Intel HD Graphics P4000, DDR3 memory controller (up to 1600MHz)	• Raven black color; metal case • 6.9"W x 17.0"D x 16.7"H (with handle) • 175mm W x 431mm D x 425mm H • 27.56 lb (12.5kg) max configuration • 25-liter
Implementation	One LGA1155 socket	Removable handle on top front Toolless side cover removal
Memory	32GB max, UDIMM, PC3-12800 1600MHz DDR3, ECC or non-ECC, four 240-pin DIMM sockets;	Toolless side cover removal Toolless disk and optical drive removal Toolless adapter retention
disclaimers	 Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs Mixing of ECC and non-ECC memory is not supported 	Illuminated front icons Recessed power button
Graphics	Some: Intel HD Graphics in processor, uses main memory, works along with discrete graphics to support multi-display; Xeon E3-1225V2/1245V2/1275V2: Intel HD Graphics P4000 Core i7-3770: Intel HD Graphics 4000 Core i5-3450/3470/3550: Intel HD Graphics 2500 Core i3-2120/2130: Intel HD Graphics 2000 Pentium/Celeron: (connector information please see Rear ports section) Some: NVIDIA® Quadro® 2000, PCIe x16 adapter, 1GB, two DisplayPort™, one dual-link DVI-I, 62W	Bay 1: 5.25", 1.6" high, access, for optical Bay 2: 5.25", 1.6" high, access, open Bay 3: 3.5", 1" high, access, for media reader Bay 4: 3.5", 1" high, internal, for disk Bay 5: 3.5", 1" high, internal, for disk Slot 1: half-length, full-height, PCle* x16 (75w max, near CPU) * PCle 2.0 x16 on Core i3/Pentium/Celeron models,
Media reader Optical Disk(s)	Media: 29-in-1 Media card reader, internal USB 2.0 Super Multi-Burner DL DVD±RW SATA 1.5Gb/s Drive 250GB/500GB/1TB/2TB/3TB SATA: SATA 6.0Gb/s, 7200 rpm, 3.5" 150GB/300GB/600GB SATA: SATA 6.0Gb/s, 10000 rpm, 2.5"	PCle 3.0 x16 on Xeon/Core i5/Core i7 models Slot 2: half-length, full-height, PCle 2.0 x1 Slot 3: half-length, full-height, 32-bit PCl 2.3 Slot 4: half-length, full-height, 32-bit PCl 2.3
Onboard SATA	128GB/180GB/256GB SSD: Solid State Drive, SATA 6.0Gb/s, 2.5" Two SATA 6.0Gb/s connectors (red), two SATA 3.0Gb/s connectors (orange),	
Onboard SAS	RAID 0, 1 support via Intel C216 Chipset None	
Chipset	Intel C216 Chipset	Intel AMT Intel AMT supported on model(s) with Xeon processor
Front ports Rear ports	Two USB 2.0, microphone (3.5mm), headphone (3.5mm) Two USB 2.0, four USB 3.0 (blue), one serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in), one analog VGA DB-15 connector, one DisplayPort connector (Onboard VGA and DisplayPort are functional when the following processors are used: Xeon E3-1225V2/1245V2/1275V2, Core i7-3770, Core i5-3450/3550, Core i3-2120/2130, Pentium, and Celeron processors) PS/2 models: additional PS/2 keyboard and mouse connectors	Preloaded operating system ²⁰ Windows® 7 Professional 64 Preloaded applications⁵ (only some listed) Rescue and Recovery® Norton® Internet Security (30 days of virus definitions) Adobe® Reader®
		Microsoft® Office 2013 preloaded;
IEEE 1394 adptr	via PS/2 rear I/O cable No onboard 1394 ports; 1394 models: additional FireWire PCIe adapter, 1394a-2000, 400Mbps, two 6-pin ports on rear	 Microsoft® Office 2013 preloaded; purchase product key to activate Corel® WinDVD® (DVD±RW model(s)) Ulead® DVD MovieFactory® (DVD±RW model(s))
Audio	via PS/2 rear I/O cable No onboard 1394 ports; 1394 models: additional FireWire PCIe adapter, 1394a-2000, 400Mbps, two 6-pin ports on rear High Definition (HD) Audio, Realtek® ALC662 codec	purchase product key to activate • Corel® WinDVD® (DVD±RW model(s))
Audio Speaker	via PS/2 rear I/O cable No onboard 1394 ports; 1394 models: additional FireWire PCle adapter, 1394a-2000, 400Mbps, two 6-pin ports on rear High Definition (HD) Audio, Realtek® ALC662 codec Internal speaker for business audio	purchase product key to activate • Corel® WinDVD® (DVD±RW model(s)) • Ulead® DVD MovieFactory® (DVD±RW model(s)) SECURITY • Security chip (see information on left)
Audio	via PS/2 rear I/O cable No onboard 1394 ports; 1394 models: additional FireWire PCIe adapter, 1394a-2000, 400Mbps, two 6-pin ports on rear High Definition (HD) Audio, Realtek® ALC662 codec	purchase product key to activate Corel®WinDVD® (DVD±RW model(s)) Ulead® DVD MovieFactory® (DVD±RW model(s)) SECURITY Security chip (see information on left) Padlock loop (in rear for opt padlock; padlock prohibits side cover removal) Security slot (in rear for optional
Audio Speaker Ethernet	via PS/2 rear I/O cable No onboard 1394 ports; 1394 models: additional FireWire PCle adapter, 1394a-2000, 400Mbps, two 6-pin ports on rear High Definition (HD) Audio, Realtek® ALC662 codec Internal speaker for business audio One onboard gigabit ethernet, Intel 82579 STMicroelectronics ST33ZP24 Trusted Platform Module (TPM), TCG 1.2-compliant Preferred Pro USB Keyboard (USB connector), 104-key, black	purchase product key to activate Corel® WinDVD® (DVD±RW model(s)) Ulead® DVD MovieFactory® (DVD±RW model(s)) SECURITY Security chip (see information on left) Padlock loop (in rear for opt padlock; padlock prohibits side cover removal) Security slot (in rear for optional Kensington® Microsaver® cable;
Audio Speaker Ethernet Security chip Keyboard Mouse	via PS/2 rear I/O cable No onboard 1394 ports; 1394 models: additional FireWire PCIe adapter, 1394a-2000, 400Mbps, two 6-pin ports on rear High Definition (HD) Audio, Realtek® ALC662 codec Internal speaker for business audio One onboard gigabit ethernet, Intel 82579 STMicroelectronics ST33ZP24 Trusted Platform Module (TPM), TCG 1.2-compliant Preferred Pro USB Keyboard (USB connector), 104-key, black Optical Wheel Mouse (USB connector), black	purchase product key to activate • Corel® WinDVD® (DVD±RW model(s)) • Ulead® DVD MovieFactory® (DVD±RW model(s)) SECURITY • Security chip (see information on left) • 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)
Audio Speaker Ethernet Security chip Keyboard Mouse Power supply	via PS/2 rear I/O cable No onboard 1394 ports; 1394 models: additional FireWire PCle adapter, 1394a-2000, 400Mbps, two 6-pin ports on rear High Definition (HD) Audio, Realtek® ALC662 codec Internal speaker for business audio One onboard gigabit ethernet, Intel 82579 STMicroelectronics ST33ZP24 Trusted Platform Module (TPM), TCG 1.2-compliant Preferred Pro USB Keyboard (USB connector), 104-key, black Optical Wheel Mouse (USB connector), black 280 watts with variable speed fan, autosensing, 85% PSU, Climate Savers® Computing Bronze, 80 PLUS® Bronze qualified	purchase product key to activate • Corel® WinDVD® (DVD±RW model(s)) • Ulead® DVD MovieFactory® (DVD±RW model(s)) SECURITY • Security chip (see information on left) • Padlock loop (in rear for opt padlock; padlock prohibits side cover removal) • Security slot (in rear for optional Kensington® Microsaver® cable;
Audio Speaker Ethernet Security chip Keyboard Mouse	via PS/2 rear I/O cable No onboard 1394 ports; 1394 models: additional FireWire PCle adapter, 1394a-2000, 400Mbps, two 6-pin ports on rear High Definition (HD) Audio, Realtek® ALC662 codec Internal speaker for business audio One onboard gigabit ethernet, Intel 82579 STMicroelectronics ST33ZP24 Trusted Platform Module (TPM), TCG 1.2-compliant Preferred Pro USB Keyboard (USB connector), 104-key, black Optical Wheel Mouse (USB connector), black 280 watts with variable speed fan, autosensing, 85% PSU,	purchase product key to activate Corel® WinDVD® (DVD±RW model(s)) Ulead® DVD MovieFactory® (DVD±RW model(s)) SECURITY Security chip (see information on left) 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 Serial port I/O control USB port disablement (front or all/individual)
Audio Speaker Ethernet Security chip Keyboard Mouse Power supply	via PS/2 rear I/O cable No onboard 1394 ports; 1394 models: additional FireWire PCle adapter, 1394a-2000, 400Mbps, two 6-pin ports on rear High Definition (HD) Audio, Realtek® ALC662 codec Internal speaker for business audio One onboard gigabit ethernet, Intel 82579 STMicroelectronics ST33ZP24 Trusted Platform Module (TPM), TCG 1.2-compliant Preferred Pro USB Keyboard (USB connector), 104-key, black Optical Wheel Mouse (USB connector), black 280 watts with variable speed fan, autosensing, 85% PSU, Climate Savers® Computing Bronze, 80 PLUS® Bronze qualified	purchase product key to activate Corel® WinDVD® (DVD±RW model(s)) Ulead® DVD MovieFactory® (DVD±RW model(s)) SECURITY Security chip (see information on left) 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 Serial port I/O control USB port disablement (front or all/individual)
Audio Speaker Ethernet Security chip Keyboard Mouse Power supply	via PS/2 rear I/O cable No onboard 1394 ports; 1394 models: additional FireWire PCle adapter, 1394a-2000, 400Mbps, two 6-pin ports on rear High Definition (HD) Audio, Realtek® ALC662 codec Internal speaker for business audio One onboard gigabit ethernet, Intel 82579 STMicroelectronics ST33ZP24 Trusted Platform Module (TPM), TCG 1.2-compliant Preferred Pro USB Keyboard (USB connector), 104-key, black Optical Wheel Mouse (USB connector), black 280 watts with variable speed fan, autosensing, 85% PSU, Climate Savers® Computing Bronze, 80 PLUS® Bronze qualified	purchase product key to activate Corel® WinDVD® (DVD±RW model(s)) Ulead® DVD MovieFactory® (DVD±RW model(s)) SECURITY Security chip (see information on left) 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 Administrator password Boot sequence control Boot without keyboard, mouse Serial port I/O control USB port disablement (front or all/individual) Chassis intrusion switch available on selected model(s)

ThinkStation® E31 Tower (2553) - GMP (October 2012)

											Chassis		
Type-		Memory	Memory	Pre-conf		Media	SATA	Graphics	1394		intrusion	PS/2	Preload
model	Processor	(MHz/ECC)	DIMMs	RAID	Disk(s)	reader	optical	adapter(s)	adptr	Global	switch	rear I/O	os
2553-A4U	Core i3-2130	1600MHz ECC	1x4GB	No	1x500GB SATA	No	DVD±RW	Quadro 410	No	Global	Switch	No	Win8 Pro64

Processor	Intel® Core™ i3-2130 processor (2C/4T, 3.4GHz, 3MB Cache), integrated Intel HD Graphics 2000, DDR3 memory controller (up to 1333MHz)	Raven black color; metal case
Implementation Memory	One LGA1155 socket 32GB max, UDIMM, PC3-12800 1600MHz DDR3, ECC or non-ECC,	• 6.9"W x 17.0"D x 16.7"H (with handle) • 175mm W x 431mm D x 425mm H • 27.56 lb (12.5kg) max configuration
Additional memory disclaimers	four 240-pin DIMM sockets; • Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs • Mixing of ECC and non-ECC memory is not supported	• 25-liter • Removable handle on top front • Toolless side cover removal
Graphics	Some: Intel HD Graphics in processor, uses main memory, works along with discrete graphics to support multi-display; Xeon E3-1225V2/1245V2/1275V2: Intel HD Graphics P4000 Core i7-3770: Intel HD Graphics 4000 Core i5-3450/3470/3550: Intel HD Graphics 2500 Core i3-2120/2130: Intel HD Graphics 2000 Pentium/Celeron: Intel HD Graphics (connector information please see Rear ports section) Some: NVIDIA® Quadro® 410, PCle x16 adapter, 512MB, one DisplayPort™, one dual-link DVI-I, 38W	• Toolless disk and optical drive removal • Toolless adapter retention • Illuminated front icons • Recessed power button Bay 1: 5.25", 1.6" high, access, for optical Bay 2: 5.25", 1.6" high, access, open Bay 3: 3.5", 1" high, access, for media reader Bay 4: 3.5", 1" high, internal, for disk Bay 5: 3.5", 1" high, internal, for disk
Media reader Optical Disk(s) Onboard SATA Onboard SAS	Media: 29-in-1 Media card reader, internal USB 2.0 Super Multi-Burner DL DVD±RW SATA 1.5Gb/s Drive 250GB/500GB/1TB/2TB/3TB SATA: SATA 6.0Gb/s, 7200 rpm, 3.5" 150GB/300GB/600GB SATA: SATA 6.0Gb/s, 10000 rpm, 2.5" 128GB/180GB/256GB SSD: Solid State Drive, SATA 6.0Gb/s, 2.5" Two SATA 6.0Gb/s connectors (red), two SATA 3.0Gb/s connectors (orange), RAID 0, 1 support via Intel C216 Chipset None	Slot 1: half-length, full-height, PCIe* x16 (75w max, near CPU) * PCIe 2.0 x16 on Core i3/Pentium/Celeron models, PCIe 3.0 x16 on Xeon models Slot 2: half-length, full-height, PCIe 2.0 x1 Slot 3: half-length, full-height, 32-bit PCI 2.3 Slot 4: half-length, full-height, 32-bit PCI 2.3
Chipset	Intel C216 Chipset	Intel AMT Intel AMT supported on model(s) with Xeon processor
Front ports Rear ports	Two USB 2.0, microphone (3.5mm), headphone (3.5mm) Two USB 2.0, four USB 3.0 (blue), one serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in), one analog VGA DB-15 connector, one DisplayPort connector (Onboard VGA and DisplayPort are functional when the following processors are used: Xeon E3-1225V2/1245V2/1275V2, Core i7-3770, Core i5-3450/3550, Core i3-2120/2130, Pentium, and Celeron processors) PS/2 models: additional PS/2 keyboard and mouse connectors via PS/2 rear I/O cable	Preloaded operating system ²⁰ Some: Windows® 7 Professional 64 Some: Windows 8 Pro 64-bit Preloaded applications ⁵ (only some listed) -Windows 7 models • Rescue and Recovery® • Norton™ Internet Security (30 days of virus definitions)
Audio Speaker Ethernet Security chip Keyboard Mouse Power supply	No onboard 1394 ports; 1394 models: additional FireWire PCIe adapter, 1394a-2000, 400Mbps, two 6-pin ports on rear High Definition (HD) Audio, Realtek® ALC662 codec Internal speaker for business audio One onboard gigabit ethernet, Intel 82579 STMicroelectronics ST33ZP24 Trusted Platform Module (TPM), TCG 1.2-compliant Preferred Pro USB Keyboard (USB connector), 104-key, black Optical Wheel Mouse (USB connector), black 280 watts with variable speed fan, autosensing, 85% PSU,	Adobe® Reader® Microsoft® Office 2013 preloaded; purchase product key to activate Corel® WinDVD® (DVD±RW model(s)) Ulead® DVD MovieFactory® (DVD±RW model(s)) -Windows 8 models Intel AppUp® Evernote® Norton Internet Security (30 days of virus definitions) Norton Studio Skype™ Microsoft Office 2013 preloaded;
	Climate Savers® Computing Bronze, 80 PLUS® Bronze qualified	purchase product key to activate - Cyberlink Power2Go (DVD±RW model(s))
Eco-Label and environmental certifications	3-year parts and labor, more Lenovo® services see S-TS sheet GREENGUARD® certified RoHS-compliant EPEAT™ Gold rating	Cyberlink PowerProducer (DVD±RW model(s)) SECURITY
ISV certifications	ENERGY STAR 5.2-compliant See the latest list of ISV certifications at www.lenovo.com/support/ISV	Security chip (see information on left) 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 Serial port I/O control USB port disablement (front or all/individual) Chassis intrusion switch available on selected model(s) More compatible accessories, please see O-DEM sheet

ThinkStation® E31 Tower (2553) - GMP (March 2013)

Type- model ¹	Processor	Memory (MHz/ECC)	Memory DIMMs	Pre-conf RAID	Drive(s)	Media reader	SATA optical	Graphics adapter(s)	1394 adptr	PS/2 rear I/O	Chassis intrusion switch	
2553-A7U	Core i7-3770	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5" SATA	Media	DVD±RW	Quadro K2000	No	No	Switch	Win7 Pro64(DG)
2553-A8U	Core i7-3770	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5" SATA	Media	DVD±RW	Quadro K2000	No	No	Switch	Win8 Pro64
2553-A9U	Xeon E3-1245V2	1600MHz ECC	1x4GB	No	1x500GB 3.5" SATA	Media	DVD±RW	Quadro K600	No	No	Switch	Win7 Pro64(DG)
2553-AAU	Xeon E3-1245V2	1600MHz ECC	1x4GB	No	1x500GB 3.5" SATA	Media	DVD±RW	Quadro K600	No	No	Switch	Win8 Pro64

- Model in italics shows that this is a Global Model
 Win7 Pro64(DG) = Windows 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit

2 Win7 Pro64(DG) = Wind	ndows 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit	
Processor	Intel® Core™ i7-3770 processor (4C/8T, 3.4GHz, 8MB Cache), integrated Intel HD Graphics 4000, Turbo Boost 2.0 (up to 3.9GHz), DDR3 memory controller (up to 1600MHz) Intel Xeon® E3-1245V2 processor (4C/8T, 3.4GHz, 8MB Cache), Turbo Boost 2.0 (up to 3.8GHz), integrated Intel HD Graphics P4000, DDR3 memory controller (up to 1600MHz)	• Raven black color; metal case • 6.9"W x 17.0"D x 16.7"H (with handle) • 175mm W x 431mm D x 425mm H • 27.56 lb (12.5kg) max configuration • 25-liter
Implementation	One LGA1155 socket	• Removable handle on top front
Memory Additional memory disclaimers	32GB max, UDIMM, PC3-12800 1600MHz DDR3, ECC or non-ECC, four 240-pin DIMM sockets; • Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs • Mixing of ECC and non-ECC memory is not supported	Toolless side cover removal Toolless disk and optical drive removal Toolless adapter retention Illuminated front icons Recessed power button
Graphics	Some: NVIDIA® Quadro® K600, PCle x16 adapter, 1GB, one DisplayPort, one dual-link DVI-I, 41W Some: NVIDIA Quadro K2000, PCle x16 adapter, 2GB, two DisplayPort, one dual-link DVI-I, 51W	Bay 1: 5.25", 1.6" high, access, for optical Bay 2: 5.25", 1.6" high, access, open Bay 3: 3.5", 1" high, access, for media reader
Media reader Optical Drive(s)	29-in-1 Media card reader in selected models, internal USB 2.0 DVD, DVD±RW, or Blu-ray, depending on model 3.5" SATA: SATA 6.0Gb/s, 7200 rpm, 3.5" 2.5" SATA: SATA 6.0Gb/s, 10000 rpm, 2.5" SSD: Solid State Drive, SATA 6.0Gb/s, 2.5" Two SATA 6.0Gb/s connectors (red), two SATA 3.0Gb/s connectors (orange),	Bay 4: 3.5", 1" high, internal, for disk Bay 5: 3.5", 1" high, internal, for disk Slot 1: half-length, full-height, PCle* x16 (75w max, near CPU) * PCle 2.0 x16 on Core i3/Pentium/Celeron models, PCle 3.0 x16 on Xeon/Core i5/Core i7 models
Only a sud CAC	RAID 0, 1 support via Intel C216 Chipset	Slot 2: half-length, full-height, PCIe 2.0 x1
Onboard SAS	None	Slot 3: half-length, full-height, 32-bit PCI 2.3
Chipset	Intel C216 Chipset	Slot 4: half-length, full-height, 32-bit PCI 2.3
Front ports Rear ports	Two USB 2.0, microphone (3.5mm), headphone (3.5mm) Two USB 2.0, four USB 3.0 (blue), one serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in), one analog VGA DB-15 connector, one DisplayPort connector	Intel AMT Intel AMT supported on model(s) with Xeon processor Preloaded operating system ²⁰
IEEE 1394 adptr	(Onboard VGA and DisplayPort [™] are functional when the following processors are used: Xeon E3-12X5V2, Core i7, i5, i3, Pentium, and Celeron processors) PS/2 models: additional PS/2 keyboard and mouse connectors via PS/2 rear I/O cable No onboard 1394 ports:	Some: Windows® 7 Professional 64 Some: Windows 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit Some: Windows 8 Pro 64-bit
Audio Speaker Ethernet Security chip	1394 models: additional FireWire PCIe adapter, 1394a-2000, 400Mbps, two 6-pin ports on rear High Definition (HD) Audio, Realtek® ALC662 codec Internal speaker for business audio One onboard gigabit ethernet, Intel 82579 STMicroelectronics ST33ZP24 Trusted Platform Module (TPM), TCG 1.2-compliant	Preloaded applications ⁵ (only some listed) -Windows 7 models • Rescue and Recovery® • Norton™ Internet Security (30 days of virus definitions) • Adobe® Reader® • Microsoft® Office 2013 preloaded; purchase product key to activate
Keyboard Mouse Power supply	Preferred Pro USB Keyboard (USB connector), 104-key, black Optical Wheel Mouse (USB connector), black 280 watts with variable speed fan, autosensing, 85% PSU, Climate Savers® Computing Bronze, 80 PLUS® Bronze qualified	Corel® WinDVD® (DVD±RW model(s)) Ulead® DVD MovieFactory® (DVD±RW model(s)) -Windows 8 models Evernote®
Eco-Label and environmental certifications	GREENGUARD® certified RoHS-compliant EPEAT™ Gold rating ENERGY STAR 5.2-compliant See the latest list of ISV contifications at www.longvio.com/cupport/ISV	 Norton Internet Security (30 days of virus definitions) Norton Studio Skype™ Microsoft Office 2013 preloaded; purchase product key to activate
	See the latest list of ISV certifications at www.lenovo.com/support/ISV	Cyberlink Power2Go (DVD±RW model(s)) Cyberlink PowerProducer (DVD±RW model(s))
ThinkVantage	Supports ThinkVantage® technologies	Cyberlink PowerProducer (DVD±RW model(s))
Limited Warranty	3-year parts and labor, more Lenovo® services see S-TS sheet	SECURITY Security chip (see information on left) 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

· Administrator password Boot sequence control Boot without keyboard, mouse
Serial port I/O control

USB port disablement (front or all/individual)
Chassis intrusion switch available on selected model(s) More compatible accessories, please see O-DEM sheet

ThinkStation® E31 SFF (3695) - TopSeller

								2nd				Chassis	DC/2		
Type- model Proce	essor	Memory (MHz/ECC)	Memory P DIMMs	re-conf RAID	Disk(s)	Media reader	SATA optical	Disk bay		1394 adptr	Global	intrusion		Vertical	Win7 preload
3695-G3U Core i3-2 3695-G4U Core i3-2		600MHz Non-ECC 600MHz Non-ECC			1x250GB SATA 1x500GB SATA				Intel HD 2000	No No	No No	No No	No No		Pro 64 Pro 64
3695-G5U Core i3-2		600MHz Non-ECC			1x500GB SATA					No	No	No	No		Pro 64
3695-G6U Core i3-2		600MHz Non-ECC		No	1x1TB SATA	Media	DVD±RW	No	Quadro 600	No	No	No	No		Pro 64
3695-H5U Xeon E3- 3695-H6U Xeon E3-					1x250GB SATA 1x500GB SATA				Intel HD P4000	No No	No No	No No	No No		Pro 64 Pro 64
3695-H0U Xeon E3					1x1TB SATA				Quadro 600	No	No	No	No		Pro 64
Processor	Intel® Co	re™ i3-2120 proc	essor (20	C/4T, 3.	3GHz, 3MB Ca	che),		s	mall Desktop						
	integrated Intel Cor integrated Intel Xeo Turbo Bo DDR3 me Intel Xeo	d Intel HD Graphic e i3-2130 process d Intel HD Graphic no E3-1225V2 pro ost 2.0 (up to 3.66 no E3-1230V2 pro ost 2.0 (up to 3.76 ost 2.0 (up to 3.76	s 2000, D sor (2C/4' s 2000, D ocessor (hHz), integ p to 1600 cessor (4	DR3 m T, 3.4G DR3 m (4C/4T, grated I DMHz) IC/8T, 3	emory controlle Hz, 3MB Cache emory controlle 3.2GHz, 8MB (ntel HD Graphi .3GHz, 8MB C	er (up to e), er (up to Cache) cs P40 ache),	o 1333MH , 00,	z) z)	③ disk	lor; m	etal ca				
Implementation		1155 socket	11 12), DD1	io men	iory controller (up to 1	0001411 12)		13.35"W x 15.0 339mm W x 38				ı		
Memory		ax, UDIMM , PC3-1 pin DIMM sockets;		0MHz I	DDR3, ECC or	non-E0	CC,		16.53 lb (7.5kg 11-liter) max	config		•		
Additional memory disclaimers	controlle	nemory operating sper r speed, installed me of ECC and non-ECC	mory spee	ed, and q	uantity of memor	y DIMM:	s	•	Toolless top co Toolless disk a Toolless adapte	nd opt	ical dr	ive remov	al		
Graphics		tel HD Graphics i				, works	alona wit	h ·	Recessed pow	er butt	ton				
Спартов	dis Xe Co Pe (c Some: N' or Some: N'	screte graphics to a seen E3-1225V2/12 ore i3-2120/2130: entium/Celeron: onnector informativIDIA® Quadro® 4 ne DisplayPort™, oo vIDIA Quadro 600 ne DisplayPort, one DisplayPort, one DisplayPort, one DisplayPort, one	support m 245V2/127 on please 00, PCle ne dual-li 0, PCle x1	nulti-dis 75V2: II II e see R e x16 ada nk DVI- I6 adap	play; ntel HD Graphi ntel HD Graphi ntel HD Graphi par ports secti apter, 512MB, l, 32W ter, 1GB,	cs P400 cs 2000 cs	00	E	Bay 1: 5.25", 1.6 Bay 2: 3.5", 0.5 Bay 3: 3.5", 1" Blot 1: Low Profit PCle 2.0 x16 on C x16 on Xeon mod	5" high high, le, <i>tore i3/l</i>	n, acce inter PCI	ess, for nal, for e* x16 (45)	medi disk v max		r U)
Media reader		9-in-1 Media card							Slot 2: Low Profi	le,		e 2.0 x1			
Optical Disk(s) Onboard SATA	Super Mu 250GB/5 150GB/3 128GB/1 Two SATA	ulti-Burner DL DVD 00GB/1TB/2TB/3T 00GB/600GB SAT 80GB/256GB SSD 4 6.0Gb/s connect	D±RW SATB SATA: A: O: ors (red),	TA 1.50 SATA 6 SATA 6 Solid S two SA	ib/s Drive 5.0Gb/s, 7200 r 5.0Gb/s, 10000 State Drive, SAT TA 3.0Gb/s cor	rpm, 2 FA 6.0G nectors	.5" ab/s, 2.5" s (orange)	. 9	Slot 3: Low Profi Slot 4: Low Profi			it PCI 2.3 it PCI 2.3			
	disk bay)	1 support via Intel	C216 Chi	pset (R	AID only work	on mod	els with 2	nd	Intel AM I						
Onboard SAS	None								ntel AMT suppor	ted or	n mod	el(s) with 2	Xeon	process	sor
Chipset		6 Chipset							Pre	loade	d ope	rating sys	stem	20	
Front ports Rear ports	Two USB three and connecto (Onboard are used: Celeron p PS/2 mod	2.0, microphone (2.0, four USB 3.0 alog audio ports (lir rr, one DisplayPort d VGA and Display : Xeon E3-1225V2, processors) dels: additional Pivia PS/2 rea	(blue), or ne-in, line connecto Port are fi /1245V2/- S/2 keybo	ne seria -out, m or unction 1275V2 oard and	I (9-pin), one e ic-in), one anal- al when the foll , Core i3-2120/	og VGA owing p '2130, F	DB-15 processors	nd •	Windows® 7 Pro- Preloaded Rescue and Re Norton® Interne Adobe® Readel Microsoft® Offic purchase produ Corel® WinDVD Ulead® DVD Mo	l applecover et Sec ee 201 oct key (DVI)	ication y [®] urity (3 3 prek v to act D±RW	ns ⁵ (only 30 days of baded; tivate model(s)	virus	definition	
IEEE 1394 adptr		ard 1394 ports; dels: additional Fire 400Mbps, tw				0,				S	ECUR	İTY		uci(3))	
Audio		inition (HD) Audio,	Realtek®						Security chip (s Security slot (in)		
Speaker Ethernet		peaker for busines pard gigabit ethern		20570					Kensington® M	icrosa	aver® c	able;			
Security chip		electronics ST33ZF			orm Module (T	PM)			prohibits side of Power-on pass	over r	emova	al)			
		compliant				,,		_ .	Administrator p	asswo	ord				
Keyboard		l Pro USB Keyboai				ack		 :	Boot sequence Boot without ke			120			
Mouse Vertical Stand		/heel Mouse (USB ertical stand with r				ontatio	n	•	Serial port I/O	contro	ol .				
Power supply	240 watts	s with variable spec Savers® Computi	ed fan, au	utosensi	ing, 85% PSU,				USB port disab Chassis intrusi						del(s)
Limited Warranty		arts and labor, mor						F	Please visit www			t ifications /support/l			
								F E	GREENGUARD® RoHS-compliant EPEAT™ Gold ra ENERGY STAR	ating 5.2-co	mpliar				
								N	More compatible	acces	ssories	s, please s	see O	-ROC s	heet

ThinkStation® E31 SFF (3695) - TopSeller (June 5, 2012)

T			Marran			Madia	CATA	2nd		1004		Chassis		Vautia al	\\/:7
	Processor	Memory (MHz/ECC)	Memory P DIMMs	RAID	Disk(s)	Media reader		Disk bay		1394 adptr		ntrusion switch	I/O	stand	preload
3695-G8U C 3695-G9U C 3695-H1U C 3695-H2U C 3695-H3U C	ore i5-3450 ore i5-3450 ore i5-3450 ore i5-3450 ore i7-3770 ore i7-3770 ore i7-3770	1600MHz Non-ECC 1600MHz Non-ECC 1600MHz Non-ECC 1600MHz Non-ECC 1600MHz Non-ECC 1600MHz Non-ECC 1600MHz Non-ECC	1x4GB 1x4GB 2x4GB 1x4GB 1x4GB	No No No No No	1x250GB SATA 1x500GB SATA 1x1TB SATA 1x500GB SATA 1x500GB SATA 1x500GB SATA 1x1TB SATA	Media Media Media Media Media	DVD±RW DVD±RW DVD±RW DVD±RW DVD±RW	No No No No No	Intel HD 2500 Quadro 400 Quadro 600 Intel HD 2500 Intel HD 4000 Quadro 400 Quadro 600	No No No No No No No	No No No No No No	No No No No No No	No No No No No No	Stand Stand Stand Stand	Pro 64 Pro 64 Pro 64 Pro 64 Pro 64 Pro 64 Pro 64
Processor	Intel® integra	Core [™] i5-3450 produted Intel HD Graphic	cessor (40	C/4T, 3.	1GHz, 6MB Ca	iche),		S	Small Desktop						
	integra	Boost 2.0 (up to 3.56 core i5-3550 proces ted Intel HD Graphic Boost 2.0 (up to 3.76 core i7-3770 proces	cs 2500,			-			3 disk	optio					
Implementation	integra Turbo	ted Intel HD Graphic Boost 2.0 (up to 3.90 GA1155 socket	cs 4000,					:	Raven black co 13.35"W x 15. 339mm W x 38	olor; me 0"D x 3 81.1mn	etal cas i.93"H n D x 99	9.7mm F	ŀ		
Memory		max, UDIMM , PC3- 10-pin DIMM sockets		0MHz I	DDR3, ECC or	non-E	CC,		 16.53 lb (7.5kg 11-liter 	g) max	configu	ration			
disclaimers	nory • Actua contro • Mixin	al memory operating sp oller speed, installed m og of ECC and non-ECC	eed depend emory spee C memory is	ed, and q s not sup	nuantity of memor ported				 Toolless top co Toolless disk a Toolless adapt Recessed pow 	and opti er retei	cal driv	e remov	al		
Graphics	Some:	Intel HD Graphics discrete graphics to discrete graphics to Xeon E3-1225V2/1. Core i7-3770: Core i3-3120/2130: Pentium/Celeron: (connector informat NVIDIA® Quadro® one DisplayPort™, NVIDIA Quadro 60 one DisplayPort, on	support m 245V2/127 3550: ion please 100, PCle one dual-li 0, PCle x1	nulti-dis 75V2: I I I e see R 6 x16 ada nk DVI-	play; ntel HD Graph ntel HD Graph ntel HD Graph ntel HD Graph ntel HD Graph ear ports secti apter, 512MB, 1, 32W ter, 1GB,	ics P40 ics 4000 ics 2500 ics 2000 ics	00	h E E	Bay 1: 5.25", 1.6" high, access, for optical/2nd disk Bay 2: 3.5", 0.5" high, access, for media reader Bay 3: 3.5", 1" high, internal, for disk Slot 1: Low Profile, PCle* x16 (45w max, near CPU) * PCle 2.0 x16 on Core i3/Pentium/Celeron models, PCle 3.0 x16 on Xeon/Core i5/Core i7 models Slot 2: Low Profile, PCle 2.0 x1						r
Media reader Optical Disk(s)	Super 250GE 150GE 128GE	: 29-in-1 Media caro Multi-Burner DL DV 8/500GB/1TB/2TB/3 8/300GB/600GB SA 8/180GB/256GB SSI	D±RW SA TB SATA: TA: D:	TA 1.50 SATA 6 SATA 6 Solid S	Bb/s Drive 5.0Gb/s, 7200 i 6.0Gb/s, 10000 State Drive, SA	rpm, 2 TA 6.0G	.5" lb/s, 2.5"		Slot 3: Low Prof Slot 4: Low Prof	file, file,	32-bit 32-bit	PCI 2.3 PCI 2.3			
Onboard SATA	RAID (disk ba	ATA 6.0Gb/s connec D, 1 support via Intel ay)							ntel AMT suppo	rted or	_	(s) with			sor
Onboard SAS Chipset	None Intel C	216 Chipset						-	Windows® 7 Pi		-	ating sy	stem	.0	
Front ports Rear ports	Two Use Two Use three a connect (Onbo- are use Core is	SB 2.0, microphone SB 2.0, four USB 3.0 analog audio ports (I ctor, one DisplayPor ard VGA and Display ed: Xeon E3-1225V2 5-3450/3550, Core ió nodels: additional F via PS/2 rei	O (blue), or ine-in, line t connecto Port are fi 2/1245V2/ 3-2120/21 S/2 keybo	ne seria -out, m r unction 1275V2 30, Pen pard and	al (9-pin), one e ic-in), one anal al when the foll 2, Core i7-3770 tium, and Cele	og VGA lowing p , ron pro	DB-15	; .	Preloaded applications ⁵ (only some listed) Rescue and Recovery [®] Norton [®] Internet Security (30 days of virus definitions) Adobe [®] Reader [®] Microsoft [®] Office 2013 preloaded; purchase product key to activate Corel [®] WinDVD [®] (DVD±RW model(s)) Ulead [®] DVD MovieFactory [®] (DVD±RW model(s))						
IEEE 1394 adp		poard 1394 ports; models: additional Fi 400Mbps, tv	reWire PC	le adap		00,			Security chip (see info	or optic	on on left onal)		
Audio Speaker Ethernet Security chip	Interna One of STMic TCG 1	Definition (HD) Audio al speaker for busine nboard gigabit ether roelectronics ST33Z .2-compliant	, Realtek® ss audio net, Intel 8 P24 Truste	ALC66 2579 ed Platf	c2 codec form Module (T			·	Kensington® Microsaver® cable; prohibits side cover removal) Power-on password Administrator password Boot sequence control Boot without keyboard, mouse Serial port I/O control USB port disablement (front or all/individual) Chassis intrusion switch available on selected model(s) ISV certifications Please visit www.lenovo.com/support/ISV						
Keyboard Mouse Vertical Stand Power supply	Optica Some: 240 wa	red Pro USB Keyboa I Wheel Mouse (USE Vertical stand with atts with variable spe te Savers® Comput	3 connecto retractable eed fan, au	or), blac e tongue itosens	ck e for vertical or ing, 85% PSU,	ientatio		•						del(s)	
Limited Warrar	ity 3-year	parts and labor, mo	re Lenovo	® servic	es see S-TS s	heet		GREENGUARD® certified RoHS-compliant EPEAT™ Gold rating ENERGY STAR 5.2-compliant More compatible accessories, please see O-ROC she					heet		
									, ,						

ThinkStation® E31 SFF (3695) - TopSeller (October 2012)

								2nd				Chassis	PS/2		
Type-		Memory	Memory I	Pre-conf		Media	SATA	Disk	Graphics	1394		intrusion	rear	Vertical	Preload
model	Processor	(MHz/ECC)	DIMMs	RAID	Disk(s)	reader	optical	bay	adapter(s)	adptr	Global	switch	I/O	stand	os
3695-P8U	Core i3-2120	1600MHz Non-ECC	1x4GB	No	1x500GB SATA	Media	DVD±RW	No	Quadro 410	No	No	Switch	No	Stand	Win8 Pro64
3695-P9U	Core i5-3470	1600MHz Non-ECC	1x4GB	No	1x500GB SATA	Media	$DVD {\pm} RW$	No	Quadro 410	No	No	Switch	No	Stand	Win8 Pro64
3695-PAU	Core i7-3770	1600MHz Non-ECC	1x4GB	No	1x500GB SATA	Media	$DVD {\pm} RW$	No	Quadro 410	No	No	Switch	No	Stand	Win8 Pro64
3695-PBU	Xeon E3-1230V2	2 1600MHz Non-ECC	1x4GB	No	1x500GB SATA	Media	$DVD {\pm} RW$	No	Quadro 410	No	No	Switch	No	Stand	Win8 Pro64

Processor	Intel® Core™ i3-2120 processor (2C/4T, 3.3GHz, 3MB Cache), integrated Intel HD Graphics 2000, DDR3 memory controller (up to 1333MHz) Intel Core i5-3470 processor (4C/4T, 3.2GHz, 6MB Cache),	Small Desktop
	integrated Intel HD Graphics 2500, Turbo Boost 2.0 (up to 3.6GHz), DDR3 memory controller (up to 1600MHz) Intel Core i7-3770 processor (4C/8T, 3.4GHz, 8MB Cache).	③ disk optical
	integrated Intel HD Graphics 4000, Turbo Boost 2.0 (up to 3.9GHz), DDR3 memory controller (up to 1600MHz) Intel Xeon® E3-1230V2 processor (4C/8T, 3.3GHz, 8MB Cache),	Raven black color; metal case 13.35"W x 15.0"D x 3.93"H
Implementation	Turbo Boost 2.0 (up to 3.7GHz), DDR3 memory controller (up to 1600MHz) One LGA1155 socket	• 13.39 mm W x 381.1mm D x 99.7mm H • 16.53 lb (7.5kg) max configuration
Memory	32GB max, UDIMM, PC3-12800 1600MHz DDR3, ECC or non-ECC,	• 11-liter
Additional memory disclaimers	 four 240-pin DIMM sockets; Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs Mixing of ECC and non-ECC memory is not supported 	 Toolless top cover removal Toolless disk and optical drive removal Toolless adapter retention Recessed power button
Graphics	Some: Intel HD Graphics in processor, uses main memory, works along with discrete graphics to support multi-display; Xeon E3-1225V2/1245V2/1275V2: Intel HD Graphics P4000 Core i7-3770: Intel HD Graphics 4000	Bay 1: 5.25", 1.6" high, access, for optical/2nd disk Bay 2: 3.5", 0.5" high, access, For media reader for disk for disk
	Core i5-3450/3470/3550: Intel HD Graphics 2500 Core i3-2120/2130: Intel HD Graphics 2000 Pentium/Celeron: Intel HD Graphics	Slot 1: Low Profile, PCle* x16 (45w max, near CPU) * PCle 2.0 x16 on Core i3/Pentium/Celeron models, PCle 3.0 x16 on Xeon/Core i5/Core i7 models
	(connector information please see Rear ports section) Some: NVIDIA® Quadro® 410 , PCle x16 adapter, 512MB, one DisplayPort™, one dual-link DVI-I, 38W	Slot 2: Low Profile, PCIe 2.0 x1 Slot 3: Low Profile, 32-bit PCI 2.3 Slot 4: Low Profile, 32-bit PCI 2.3
Media reader Optical	Media: 29-in-1 Media card reader, slim, internal USB 2.0 Super Multi-Burner DL DVD±RW SATA 1.5Gb/s Drive	Intel AMT
Disk(s)	250GB/500GB/1TB/2TB/3TB SATA: SATA 6.0Gb/s, 7200 rpm, 3.5"	Intel AMT supported on model(s) with Xeon processor
	150GB/300GB/600GB SATA: SATA 6.0Gb/s, 10000 rpm, 2.5" 128GB/180GB/256GB SSD: Solid State Drive, SATA 6.0Gb/s, 2.5"	Preloaded operating system ²⁰
Onboard SATA	Two SATA 6.0Gb/s connectors (red), two SATA 3.0Gb/s connectors (orange), RAID 0, 1 support via Intel C216 Chipset (RAID only work on models with 2nd disk bay)	Some: Windows® 7 Professional 64 Some: Windows 8 Pro 64-bit
Onboard SAS	None	Preloaded applications ⁵ (only some listed) -Windows 7 models
Chipset	Intel C216 Chipset	Rescue and Recovery® Norton™ Internet Security (30 days of virus definitions)
Front ports Rear ports	Two USB 2.0, microphone (3.5mm), headphone (3.5mm) Two USB 2.0, four USB 3.0 (blue), one serial (9-pin), one ethernet (RJ-45),	Adobe® Reader®
	three analog audio ports (line-in, line-out, mic-in), one analog VGA DB-15 connector, one DisplayPort connector	Microsoft® Office 2013 preloaded; purchase product key to activate
	(Onboard VGA and DisplayPort are functional when the following processors	Corel® WinDVD® (DVD±RW model(s)) Ulead® DVD MovieFactory® (DVD±RW model(s))
	are used: Xeon E3-1225V2/1245V2/1275V2, Core i7-3770, Core i5-3450/3550, Core i3-2120/2130, Pentium, and Celeron processors)	-Windows 8 models
	PS/2 models: additional PS/2 keyboard and mouse connectors via PS/2 rear I/O cable	Intel AppUp® Evernote®
IEEE 1394 adptr	No onboard 1394 ports; 1394 models: additional FireWire PCle adapter, 1394a-2000, 400Mbps, two 6-pin ports on rear	 Norton Internet Security (30 days of virus definitions) Norton Studio Skype™
Audio	High Definition (HD) Audio, Realtek® ALC662 codec	Microsoft Office 2013 preloaded;
Speaker Ethernet	Internal speaker for business audio One onboard gigabit ethernet, Intel 82579	 purchase product key to activate Cyberlink Power2Go (DVD±RW model(s))
Security chip	STMicroelectronics ST33ZP24 Trusted Platform Module (TPM), TCG 1.2-compliant	Cyberlink PowerProducer (DVD±RW model(s))
Keyboard Mouse	Preferred Pro USB Keyboard (USB connector), 104-key, black Optical Wheel Mouse (USB connector), black	SECURITY • Security chip (see information on left)
Vertical Stand	Some: Vertical stand with retractable tongue for vertical orientation	Security slot (in rear for optional
Power supply	240 watts with variable speed fan, autosensing, 85% PSU, Climate Savers® Computing Bronze, 80 PLUS® Bronze qualified	Kensington® Microsaver® cable; prohibits side cover removal) • Power-on password
Limited Warranty Eco-Label and	3-year parts and labor, more Lenovo® services see S-TS sheet GREENGUARD® certified	Administrator password Boot sequence control
environmental	RoHS-compliant	Boot without keyboard, mouse
certifications	EPEAT™ Gold rating ENERGY STAR 5.2-compliant	Serial port I/O control USB port disablement (front or all/individual)
ISV certifications	See the latest list of ISV certifications at www.lenovo.com/support/ISV	Chassis intrusion switch available on selected model(s)
		More compatible accessories, please see O-ROC sheet

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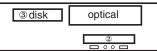
						2nd					Chassis		
Type-		Memory	Memory	Pre-conf	SATA	drive	Media	SATA	Graphics	1394	intrusion	Vertical	Preload
model ¹	Processor	(MHz/ECC)	DIMMs	RAID	drive(s)	bay	reader	optical	adapter(s)	adptr	switch	stand	OS ²
3695-RNU	Core i3-3220	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5"	No	Media	DVD±RW	Intel HD 2500	No	Switch	Stand	Win7 Pro64(DG)
3695-RPU	Core i3-3220	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5"	No	Media	DVD±RW	Intel HD 2500	No	Switch	Stand	Win8 Pro64
3695-RQU	Core i3-3240	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5"	No	Media	DVD±RW	Intel HD 2500	No	Switch	Stand	Win8 Pro64
3695-RRU	Core i3-3240	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5"	No	Media	DVD±RW	Intel HD 2500	No	Switch	Stand	Win7 Pro64(DG)
3695-RSU	Core i3-3220	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5"	No	Media	DVD±RW	Quadro K600	No	Switch	Stand	Win7 Pro64(DG)
3695-RTU	Core i3-3220	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5"	No	Media	DVD±RW	Quadro K600	No	Switch	Stand	Win8 Pro64
3695-RUU	Core i3-3220	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5"	No	Media	DVD±RW	Quadro 410	No	Switch	Stand	Win8 Pro64
3695-RVU	Core i3-3240	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5"	No	Media	DVD±RW	Quadro K600	No	Switch	Stand	Win7 Pro64(DG)
3695-RWU	Core i3-3240	1600MHz Non-ECC	1x4GB	No	1x1TB 3.5"	No	Media	DVD±RW	Quadro K600	No	Switch	Stand	Win7 Pro64(DG)
3695-RYU	Core i3-3220	1600MHz Non-ECC	1x4GB	No	1x1TB 3.5"	No	Media	DVD±RW	Quadro K600	No	Switch	Stand	Win7 Pro64(DG)

3695-RYU Core	3-3220 1600MHz Non-ECC 1x4GB No 1x1TB 3.5" No Media DVD=
1 Model in italics show 2 Win7 Pro64(DG) = W	that this is a Global Model indows 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit
Processor	Intel [®] Core [™] i3-3220 processor (2C/4T, 3.3GHz, 3MB Cache), integrated Intel HD Graphics 2500, DDR3 memory controller (up to 1600MHz) Intel Core i3-3240 processor (2C/4T, 3.4GHz, 3MB Cache),
Implementation	integrated Intel HD Graphics 2500, DDR3 memory controller (up to 1600MHz) One LGA1155 socket
Memory	32GB max, UDIMM, PC3-12800 1600MHz DDR3, ECC or non-ECC, four 240-pin DIMM sockets;
Additional memory disclaimers	• Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs • Mixing of ECC and non-ECC memory is not supported
Graphics	Some: Intel HD Graphics in processor, uses main memory, works along with discrete graphics to support multi-display; (detailed graphics model name please see Processor section, connector information please see Rear ports section) Some: NVIDIA® Quadro® 410, PCIe x16 adapter, 512MB, one DisplayPort, one dual-link DVI-I, 37W Some: NVIDIA Quadro K600, PCIe x16 adapter, 1GB, one DisplayPort, one dual-link DVI-I, 41W
Media reader Optical SATA drive(s)	Media: 29-in-1 Media card reader, slim, internal USB 2.0 DVD, slim DVD, DVD±RW, slim DVD±RW, or Blu-ray, depending on model 3.5": SATA 6.0Gb/s, 7200 rpm, 3.5" 2.5": SATA 6.0Gb/s, 10000 rpm, 2.5" SSD: Solid State Drive, SATA 6.0Gb/s, 2.5"
Onboard SATA	Two SATA 6.0Gb/s connectors (red), two SATA 3.0Gb/s connectors (orange), RAID 0, 1 support via Intel C216 Chipset (RAID can work on models with 2nd drive bay only)
Onboard SAS	None
Chipset	Intel C216 Chipset
Front ports Rear ports	Two USB 2.0, microphone (3.5mm), headphone (3.5mm) Two USB 2.0, four USB 3.0 (blue), one serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in), one analog VGA DB-15 connector, one DisplayPort connector (Onboard VGA and DisplayPort are functional when the following processors
IEEE 1394 adptr	are used: Xeon E3-12X5V2, Core i7, i5, i3, Pentium, and Celeron processors) No onboard 1394 ports; 1394 models: additional FireWire PCIe adapter, 1394a-2000, 400Mbps, two 6-pin ports on rear
Audio Speaker Ethernet Security chip	High Definition (HD) Audio, Realtek® ALC662 codec Internal speaker for business audio One onboard gigabit ethernet, Intel 82579 STMicroelectronics ST33ZP24 Trusted Platform Module (TPM), TCG 1.2-compliant
Keyboard Mouse Vertical Stand Power supply	Preferred Pro USB Keyboard (USB connector), 104-key, black Optical Wheel Mouse (USB connector), black Some: Vertical stand with retractable tongue for vertical orientation 240 watts with variable speed fan, autosensing, 85% PSU, Climate Savers® Computing Bronze, 80 PLUS® Bronze qualified
Limited Warranty	3-year parts and labor, more Lenovo® services see S-TS sheet
Eco-Label and environmental certifications	GREENGUARD® certified RoHS-compliant EPEAT™ Gold rating ENERGY STAR 5.2-compliant

See the latest list of ISV certifications at www.lenovo.com/support/ISV

Intel AMT supported on model(s) with Xeon processor

mall Desktop



- Raven black color; metal case
- 13.35"W x 15.0"D x 3.93"H
- 339mm W x 381.1mm D x 99.7mm H
- 16.53 lb (7.5kg) max configuration
- 11-liter
 - Toolless top cover removal
- Toolless disk and optical drive removal
- Toolless adapter retention
- Recessed power button

Bay 1: 5.25", 1.6" high, access, Bay 2: 3.5", 0.5" high, access, Bay 3: 3.5", 1" high, internal, for optical/2nd disk for media reader internal,

Slot 1: Low Profile, PCIe* x16 (45w max, near CPU) PCIe 2.0 x16 on Core i3/Pentium/Celeron models, PCIe 3.0 x16 on Xeon models

Slot 2: Low Profile, PCIe 2.0 x1 Slot 3: Low Profile, 32-bit PCI 2.3 Slot 4: Low Profile, 32-bit PCI 2.3

Preloaded operating system²⁰

Windows® 7 Professional 64 Windows 7 Professional 64 ome: ome: preinstalled through downgrade rights in Windows 8 Pro 64-bit Windows 8 Pro 64-bit

Preloaded applications⁵ (only some listed)

Vindows 7 models

- Rescue and Recovery® Norton™ Internet Security (30 days of virus definitions)
- Adobe® Reader®
- Microsoft® Office 2013 preloaded; purchase product key to activate
- Corel® WinDVD® (DVD±RW model(s))
- Ulead® DVD MovieFactory® (DVD±RW model(s))

Vindows 8 models

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))

SECURITY

- Security chip (see information on left)
- 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
- Serial port I/O control
- USB port disablement (front or all/individual)
- Chassis intrusion switch available on selected model(s)

ENERGY STAR 5.2-compliant

Intel AMT

ISV certifications

ThinkStation® E31 SFF (3695) - TopSeller (March 2013) - II

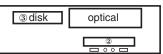
						2nd					Chassis		
Type- model ¹	Processor	Memory (MHz/ECC)	Memory DIMMs	Pre-conf RAID	SATA drive(s)	drive bay	Media reader	SATA optical	Graphics adapter(s)	1394 adptr	intrusion switch	Vertical stand	Preload OS ²
		(/			. ,			<u> </u>	,				
3695-RZU	Core i5-3470	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5"	No	Media	$DVD\pm RW$	Intel HD 2500	No	Switch	Stand	Win7 Pro64(DG)
3695-QAU	Core i5-3570	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5"	No	Media	DVD±RW	Quadro 410	No	Switch	Stand	Win7 Pro64(DG)
3695-QBU	Core i5-3570	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5"	No	Media	DVD±RW	Quadro K600	No	Switch	Stand	Win7 Pro64(DG)
3695-QCU	Core i5-3570	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5"	No	Media	DVD±RW	Intel HD 2500	No	Switch	Stand	Win7 Pro64(DG)
3695-QDU	Core i7-3770	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5"	No	Media	DVD±RW	Intel HD 4000	No	Switch	Stand	Win7 Pro64(DG)
3695-QEU	Core i7-3770	1600MHz Non-ECC	1x4GB	No	1x1TB 3.5"	No	Media	DVD±RW	Quadro K600	No	Switch	Stand	Win7 Pro64(DG)
3695-QFU	Xeon E3-1225V2	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5"	No	Media	DVD±RW	Intel HD P4000	No	Switch	Stand	Win7 Pro64(DG)
3695-QGU	Xeon E3-1230V2	1600MHz Non-ECC	1x4GB	No	1x1TB 3.5"	No	Media	DVD±RW	Quadro K600	No	Switch	Stand	Win7 Pro64(DG)
3695-QHU	Core i7-3770	1600MHz Non-ECC	1x4GB	No	1x180GB SSD	No	Media	DVD±RW	Quadro K600	No	Switch	Stand	Win7 Pro64(DG)

Model in italics shows that this is a Global Model
Win7 Pro64(DG) = Windows 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit Intel[®] Core[™] i5-3470 processor (4C/4T, 3.2GHz, 6MB Cache), Processor integrated Intel HD Graphics 2500 Turbo Boost 2.0 (up to 3.6GHz), DDR3 memory controller (up to 1600MHz) Intel Core i5-3570 processor (4C/4T, 3.4GHz, 6MB Cache), integrated Intel HD Graphics 2500, Turbo Boost 2.0 (up to 3.8GHz), DDR3 memory controller (up to 1600MHz) Intel Core i7-3770 processor (4C/8T, 3.4GHz, 8MB Cache), integrated Intel HD Graphics 4000, Turbo Boost 2.0 (up to 3.9GHz), DDR3 memory controller (up to 1600MHz) Intel Xeon® E3-1225V2 processor (4C/4T, 3.2GHz, 8MB Cache), Turbo Boost 2.0 (up to 3.6GHz), integrated Intel HD Graphics P4000, DDR3 memory controller (up to 1600MHz)

Intel Xeon E3-1230V2 processor (4C/8T, 3.3GHz, 8MB Cache),
Turbo Boost 2.0 (up to 3.7GHz), DDR3 memory controller (up to 1600MHz) One LGA1155 socket Implementation Memory 32GB max, UDIMM, PC3-12800 1600MHz DDR3, ECC or non-ECC, four 240-pin DIMM sockets; Additional memory · Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs disclaimers Mixing of ECC and non-ECC memory is not supported Graphics Some: Intel HD Graphics in processor, uses main memory, works along with discrete graphics to support multi-display; (detailed graphics model name please see **Processor** section, connector information please see Rear ports section)
Some: NVIDIA® Quadro® 410, PCle x16 adapter, 512MB, one DisplayPort, one dual-link DVI-I, 37W

Some: NVIDIA Quadro K600, PCle x16 adapter, 1GB, one DisplayPort, one dual-link DVI-I, 41W Media reader Media: 29-in-1 Media card reader, slim, internal USB 2.0 DVD, slim DVD, DVD±RW, slim DVD±RW, or Blu-ray, depending on model Optical SATA drive(s) 3.5": SATA 6.0Gb/s, 7200 rpm, 3.5" 2.5": SATA 6.0Gb/s, 10000 rpm, 2.5" SSD: Solid State Drive, SATA 6.0Gb/s, 2.5" Two SATA 6.06b/s connectors (red), two SATA 3.06b/s connectors (orange), RAID 0, 1 support via Intel C216 Chipset (RAID can work on models with 2nd Onboard SATA drive bay only) Onboard SAS Chipset Intel C216 Chipset Front ports Two USB 2.0, microphone (3.5mm), headphone (3.5mm) Two USB 2.0, four USB 3.0 (blue), one serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in), one analog VGA DB-15 Rear ports connector, one DisplayPort connector (Onboard VGA and DisplayPort[™] are functional when the following processors are used: Xeon E3-12X5V2, Core i7, i5, i3, Pentium, and Celeron processors) IEEE 1394 adptr No onboard 1394 ports; 1394 models: additional FireWire PCle adapter, 1394a-2000, 400Mbps, two 6-pin ports on rear Audio High Definition (HD) Audio, Realtek® ALC662 codec Speaker Internal speaker for business audio One onboard gigabit ethernet, Intel 82579 Ethernet Security chip STMicroelectronics ST33ZP24 Trusted Platform Module (TPM), TCG 1.2-compliant Preferred Pro USB Keyboard (USB connector), 104-key, black Keyboard Optical Wheel Mouse (USB connector), black Mouse Vertical Stand Some: Vertical stand with retractable tongue for vertical orientation 240 watts with variable speed fan, autosensing, 85% PSU, Climate Savers® Computing Bronze, 80 PLUS® Bronze qualified Power supply Limited Warranty 3-year parts and labor, more Lenovo® services see S-TS sheet GREENGUARD® certified Eco-Label and environmental RoHS-compliant EPEAT™ Gold rating certifications **ENERGY STAR 5.2-compliant** ISV certifications See the latest list of ISV certifications at www.lenovo.com/support/ISV Intel AMT Intel AMT supported on model(s) with Xeon processor

Small Desktop



- · Raven black color; metal case
- 13.35"W x 15.0"D x 3.93"H
- 339mm W x 381.1mm D x 99.7mm H
- 16.53 lb (7.5kg) max configuration
- 11-liter
- · Toolless top cover removal
- Toolless disk and optical drive removal
- Toolless adapter retention
- Recessed power button

Bay 1: 5.25", 1.6" high, access, Bay 2: 3.5", 0.5" high, access, Bay 3: 3.5", 1" high, internal, for optical/2nd disk for media reader

for disk

Slot 1: Low Profile, PCIe* x16 (45w max, near CPU) * PCIe 2.0 x16 on Core i3/Pentium/Celeron models, PCIe 3.0 x16 on Xeon/Core i5/Core i7 models

Slot 2: Low Profile, PCIe 2.0 x1 Slot 3: Low Profile, 32-bit PCI 2.3 32-bit PCI 2.3 Slot 4: Low Profile,

Preloaded operating system²⁰

Windows® 7 Professional 64 Windows 7 Professional 64 Some: Some: preinstalled through downgrade rights in Windows 8 Pro 64-bit Windows 8 Pro 64-bit

Preloaded applications⁵ (only some listed)

Windows 7 models

- Rescue and Recovery®
 Norton™ Internet Security (30 days of virus definitions)
- Adobe® Reader®
- Microsoft® Office 2013 preloaded: purchase product key to activate
- Corel® WinDVD® (DVD±RW model(s))
- Ulead® DVD MovieFactory® (DVD±RW model(s))

-Windows 8 models

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))

SECURITY

- Security chip (see information on left)
- 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
- Serial port I/O control
- USB port disablement (front or all/individual)
- Chassis intrusion switch available on selected model(s)

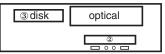
ThinkStation® E31 SFF (3695) - TopSeller (March 2013) - III

						2nd					Chassis		
Type- model ¹	Processor	Memory (MHz/ECC)	Memory DIMMs	Pre-conf RAID	SATA drive(s)		Media reader	SATA optical	Graphics adapter(s)	1394 adptr	intrusion switch	Vertical stand	Preload OS ²
		,			. ,			<u> </u>					
3695-QJU	Core i3-3240	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5"	No	Media	$DVD\pm RW$	Quadro K600	No	Switch	Stand	Win8 Pro64
3695-QKU	Core i3-3220	1600MHz Non-ECC	1x4GB	No	1x1TB 3.5"	No	Media	DVD±RW	Quadro K600	No	Switch	Stand	Win8 Pro64
3695-QLU	Core i3-3240	1600MHz Non-ECC	1x4GB	No	1x1TB 3.5"	No	Media	DVD±RW	Quadro K600	No	Switch	Stand	Win8 Pro64
3695-QMU	Core i5-3470	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5"	No	Media	DVD±RW	Intel HD 2500	No	Switch	Stand	Win8 Pro64
3695-QNU	Core i5-3570	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5"	No	Media	DVD±RW	Intel HD 2500	No	Switch	Stand	Win8 Pro64
3695-QPU	Core i5-3570	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5"	No	Media	DVD±RW	Quadro 410	No	Switch	Stand	Win8 Pro64
3695-QQU	Core i5-3570	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5"	No	Media	DVD±RW	Quadro K600	No	Switch	Stand	Win8 Pro64
3695-QRU	Core i7-3770	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5"	No	Media	DVD±RW	Intel HD 4000	No	Switch	Stand	Win8 Pro64
3695-QSU	Core i7-3770	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5"	No	Media	DVD±RW	Quadro 410	No	Switch	Stand	Win8 Pro64

Intel® Core™ i3-3220 processor (2C/4T, 3.3GHz, 3MB Cache), Processor integrated Intel HD Graphics 2500, DDR3 memory controller (up to 1600MHz) Intel Core i3-3240 processor (2C/4T, 3.4GHz, 3MB Cache), integrated Intel HD Graphics 2500, DDR3 memory controller (up to 1600MHz) Intel Core i5-3470 processor (4C/4T, 3.2GHz, 6MB Cache), integrated Intel HD Graphics 2500, Turbo Boost 2.0 (up to 3.6GHz), DDR3 memory controller (up to 1600MHz) Intel Core i5-3570 processor (4C/4T, 3.4GHz, 6MB Cache), integrated Intel HD Graphics 250 Turbo Boost 2.0 (up to 3.8GHz), DDR3 memory controller (up to 1600MHz) Intel Core i7-3770 processor (4C/8T, 3.4GHz, 8MB Cache), integrated Intel HD Graphics 4000, Turbo Boost 2.0 (up to 3.9GHz), DDR3 memory controller (up to 1600MHz) Implementation One LGA1155 socket 32GB max, UDIMM, PC3-12800 1600MHz DDR3, ECC or non-ECC, Memory four 240-pin DIMM sockets; Additional memory · Actual memory operating speed depends on processor memory disclaimers controller speed, installed memory speed, and quantity of memory DIMMs Mixing of ECC and non-ECC memory is not supported Graphics Some: Intel HD Graphics in processor, uses main memory, works along with discrete graphics to support multi-display;
(detailed graphics model name please see Processor section, connector information please see Rear ports section) Some: NVIDIA Quadro 410, PCle x16 adapter, 512MB, one DisplayPort, one dual-link DVI-I, 37W
Some: NVIDIA Quadro K600, PCle x16 adapter, 1GB, one DisplayPort, one dual-link DVI-I, 41W Media reader Media: 29-in-1 Media card reader, slim, internal USB 2.0 DVD, slim DVD, DVD±RW, slim DVD±RW, or Blu-ray, depending on model Optical SATA drive(s) 3.5": SATA 6.0Gb/s, 7200 rpm, 3.5" SATA 6.0Gb/s, 10000 rpm, 2.5" SSD: Solid State Drive, SATA 6.0Gb/s, 2.5' Two SATA 6.0Gb/s connectors (red), two SATA 3.0Gb/s connectors (orange), RAID 0, 1 support via Intel C216 Chipset (RAID can work on models with 2nd Onboard SATA drive bay only) Onboard SAS Chipset Intel C216 Chipset Front ports Two USB 2.0, microphone (3.5mm), headphone (3.5mm) Two USB 2.0, four USB 3.0 (blue), one serial (9-pin), one ethernet (RJ-45), Rear ports three analog audio ports (line-in, line-out, mic-in), one analog VGA DB-15 connector, one DisplayPort connector (Onboard VGA and DisplayPort[™] are functional when the following processors are used: Xeon E3-12X5V2, Core i7, i5, i3, Pentium, and Celeron processors) No onboard 1394 ports; IEEE 1394 adptr 1394 models: additional FireWire PCIe adapter, 1394a-2000, 400Mbps, two 6-pin ports on rear High Definition (HD) Audio, Realtek® ALC662 codec Audio Speaker Internal speaker for business audio One onboard gigabit ethernet, Intel 82579 Ethernet Security chip STMicroelectronics ST33ZP24 Trusted Platform Module (TPM), TCG 1.2-compliant Preferred Pro USB Keyboard (USB connector), 104-key, black Keyboard Optical Wheel Mouse (USB connector), black Mouse Vertical Stand Some: Vertical stand with retractable tongue for vertical orientation Power supply 240 watts with variable speed fan, autosensing, 85% PSU, Climate Savers® Computing Bronze, 80 PLUS® Bronze qualified Limited Warranty 3-year parts and labor, more Lenovo® services see S-TS sheet Eco-Label and GREENGUARD® certified RoHS-compliant EPEAT™ Gold rating environmental certifications **ENERGY STAR 5.2-compliant** ISV certifications See the latest list of ISV certifications at www.lenovo.com/support/ISV

Intel AMT supported on model(s) with Xeon processor

Small Desktop



- · Raven black color; metal case
- 13.35"W x 15.0"D x 3.93"H
- 339mm W x 381.1mm D x 99.7mm H
- 16.53 lb (7.5kg) max configuration
- 11-liter
- · Toolless top cover removal
- Toolless disk and optical drive removal
- Toolless adapter retention
- Recessed power button

Bay 1: 5.25", 1.6" high, access, Bay 2: 3.5", 0.5" high, access, Bay 3: 3.5", 1" high, internal, for optical/2nd disk for media reader for disk internal,

Slot 1: Low Profile, PCIe* x16 (45w max, near CPU) * PCle 2.0 x16 on Core i3/Pentium/Celeron models, PCIe 3.0 x16 on Xeon/Core i5/Core i7 models

Slot 2: Low Profile, PCIe 2.0 x1 Slot 3: Low Profile, 32-bit PCI 2.3 32-bit PCI 2.3 Slot 4: Low Profile,

Preloaded operating system²⁰

Windows® 7 Professional 64 Windows 7 Professional 64 Some: Some: preinstalled through downgrade rights in Windows 8 Pro 64-bit Windows 8 Pro 64-bit

Preloaded applications⁵ (only some listed)

-Windows 7 models

- Rescue and Recovery®
 Norton™ Internet Security (30 days of virus definitions)
- Adobe® Reader®
- Microsoft® Office 2013 preloaded; purchase product key to activate
- Corel® WinDVD® (DVD±RW model(s))
- Ulead® DVD MovieFactory® (DVD±RW model(s))

-Windows 8 models

- 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))

SECURITY

- Security chip (see information on left)
- 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
- Serial port I/O control
- USB port disablement (front or all/individual)
- Chassis intrusion switch available on selected model(s)

More compatible accessories, please see O-ROC sheet

Intel AMT

Model in italics shows that this is a Global Model
Win7 Pro64(DG) = Windows 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit

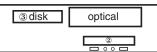
ThinkStation® E31 SFF (3695) - TopSeller (March 2013) - IV

Type- model ¹	Processor	Memory (MHz/ECC)	Memory DIMMs	Pre-conf RAID	SATA drive(s)	2nd drive bay	Media reader	SATA optical		1394 adptr	Chassis intrusion switch	Vertical stand	Preload OS ²
3695-QTU	Core i7-3770	1600MHz Non-ECC	1x4GB	No	1x1TB 3.5"	No	Media	DVD±RW	Quadro K600	No	Switch	Stand	Win8 Pro64
3695-QUU	Xeon E3-1225V2	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5"	No	Media	DVD±RW	Intel HD P4000	No	Switch	Stand	Win8 Pro64
3695-QVU	Xeon E3-1225V2	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5"	No	Media	DVD±RW	Quadro 410	No	Switch	Stand	Win8 Pro64
3695-QWU	Xeon E3-1230V2	1600MHz Non-ECC	1x4GB	No	1x1TB 3.5"	No	Media	DVD±RW	Quadro K600	No	Switch	Stand	Win8 Pro64
3695-QYU	Core i7-3770	1600MHz Non-ECC	1x4GB	No	1x180GB SSD	No	Media	DVD±RW	Quadro K600	No	Switch	Stand	Win8 Pro64

1 Model in italics shows that this is a Global Model

2 Win7 Pro64(DG) = Wi	that this is a Giodal Model ndows 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit	
Processor	Intel® Core™ i7-3770 processor (4C/8T, 3.4GHz, 8MB Cache), integrated Intel HD Graphics 4000,	s
	Turbo Boost 2.0 (up to 3.9GHz), DDR3 memory controller (up to 1600MHz)	Г
	Intel Xeon® E3-1225V2 processor (4C/4T, 3.2GHz, 8MB Cache),	
	Turbo Boost 2.0 (up to 3.6GHz), integrated Intel HD Graphics P4000, DDR3 memory controller (up to 1600MHz)	Ш
	Intel Xeon E3-1230V2 processor (4C/8T, 3.3GHz, 8MB Cache).	IL
	Turbo Boost 2.0 (up to 3.7GHz), DDR3 memory controller (up to 1600MHz)	
Implementation	One LGA1155 socket	ͺͺͺͺͺͺͺͺͺͺͺͺͺͺͺͺͺͺͺͺͺͺͺͺͺͺͺͺͺͺͺͺͺͺͺͺͺͺ
Memory	32GB max, UDIMM , PC3-12800 1600MHz DDR3 , ECC or non-ECC , four 240-pin DIMM sockets;	•
	Actual memory operating speed depends on processor memory	•
disclaimers	controller speed, installed memory speed, and quantity of memory DIMMs • Mixing of ECC and non-ECC memory is not supported	
Graphics	Some: Intel HD Graphics in processor, uses main memory, works along with	
	discrete graphics to support multi-display; (detailed graphics model name please see Processor section,	E
	connector information please see Rear ports section,	B
	Some: NVIDIA® Quadro® 410, PCle x16 adapter, 512MB,	B
	one DisplayPort, one dual-link DVI-I, 37W	s
	Some: NVIDIA Quadro K600, PCIe x16 adapter, 1GB, one DisplayPort, one dual-link DVI-I, 41W	*
Media reader	Media: 29-in-1 Media card reader, slim, internal USB 2.0	1
Optical	DVD, slim DVD, DVD±RW, slim DVD±RW, or Blu-ray, depending on model	S
SATA drive(s)	3.5": SATA 6.0Gb/s, 7200 rpm, 3.5"	S
	2.5": SATA 6.0Gb/s, 10000 rpm, 2.5" SSD: Solid State Drive, SATA 6.0Gb/s, 2.5"	-
Onboard SATA	Two SATA 6.0Gb/s connectors (red), two SATA 3.0Gb/s connectors (orange),	
	RAID 0, 1 support via Intel C216 Chipset (RAID can work on models with 2nd	
Onboard SAS	drive bay only) None	S
Chipset	Intel C216 Chipset	s
Front ports	Two USB 2.0, microphone (3.5mm), headphone (3.5mm)	1
Rear ports	Two USB 2.0, four USB 3.0 (blue), one serial (9-pin), one ethernet (RJ-45),	S
	three analog audio ports (line-in, line-out, mic-in), one analog VGA DB-15 connector, one DisplayPort connector	
	(Onboard VGA and DisplayPort [™] are functional when the following processors	۱-۱
IEEE 4004 - de te	are used: Xeon E3-12X5V2, Core i7, i5, i3, Pentium, and Celeron processors)	:
IEEE 1394 adptr	No onboard 1394 ports; 1394 models: additional FireWire PCIe adapter, 1394a-2000,	•
	400Mbps, two 6-pin ports on rear	•
Audio	High Definition (HD) Audio, Realtek® ALC662 codec	
Speaker	Internal speaker for business audio	
Ethernet Security chip	One onboard gigabit ethernet, Intel 82579 STMicroelectronics ST33ZP24 Trusted Platform Module (TPM),	-١
Security CHIP	TCG 1.2-compliant	•
Keyboard	Preferred Pro USB Keyboard (USB connector), 104-key, black	:
Mouse	Optical Wheel Mouse (USB connector), black	•
Vertical Stand	Some: Vertical stand with retractable tongue for vertical orientation	•
Power supply	240 watts with variable speed fan, autosensing, 85% PSU,	
Lineite al M/- ····	Climate Savers® Computing Bronze, 80 PLUS® Bronze qualified	∤.
Limited Warranty	3-year parts and labor, more Lenovo® services see S-TS sheet	╀
Eco-Label and environmental	GREENGUARD® certified RoHS-compliant	
certifications	EPEAT™ Gold rating	•
	ENERGY STAR 5.2-compliant	-
ISV certifications	See the latest list of ISV certifications at www.lenovo.com/support/ISV	.
Intel AMT	Intel AMT supported on model(s) with Xeon processor	•
		•

Small Desktop



- · Raven black color; metal case
- 13.35"W x 15.0"D x 3.93"H
- 339mm W x 381.1mm D x 99.7mm H
- 16.53 lb (7.5kg) max configuration
- 11-liter
- · Toolless top cover removal
- Toolless disk and optical drive removal
- Toolless adapter retention
- Recessed power button

Bay 1: 5.25", 1.6" high, access, Bay 2: 3.5", 0.5" high, access, Bay 3: 3.5", 1" high, internal, for optical/2nd disk for media reader

internal, for disk

Slot 1: Low Profile, PCIe* x16 (45w max, near CPU) * PCIe 2.0 x16 on Core i3/Pentium/Celeron models, PCle 3.0 x16 on Xeon/Core i5/Core i7 models

Slot 2: Low Profile, PCIe 2.0 x1 Slot 3: Low Profile, 32-bit PCI 2.3 32-bit PCI 2.3 Slot 4: Low Profile,

Preloaded operating system²⁰

Windows® 7 Professional 64 Windows 7 Professional 64 Some: preinstalled through downgrade rights in Windows 8 Pro 64-bit

Some: Windows 8 Pro 64-bit

Preloaded applications⁵ (only some listed)

Windows 7 models

- Rescue and Recovery®
- Norton™ Internet Security (30 days of virus definitions)
- Adobe® Reader®
- Microsoft® Office 2013 preloaded;
- purchase product key to activate
 Corel® WinDVD® (DVD±RW model(s))
- Ulead® DVD MovieFactory® (DVD±RW model(s))

Windows 8 models

- 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))

SECURITY

- Security chip (see information on left)
- 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
- Serial port I/O control
- USB port disablement (front or all/individual)
- Chassis intrusion switch available on selected model(s)

ThinkStation® E31 SFF (3695) - TopSeller (May 2013)

						2nd					Chassis		
Type-		Memory	Memory	Pre-conf	SATA	drive	Media	SATA	Graphics	1394	intrusion	Vertical	Preload
model ¹	Processor	(MHz/ECC)	DIMMs	RAID	drive(s)	bay	reader	optical	adapter(s)	adptr	switch	stand	OS ²
3695-T2U	Xeon E3-1280V2	1600MHz ECC	8GBx1	No	1x1TB 3.5" SATA	No	No	DVD±RW	Quadro K600	No	Switch	Stand	Win7 Pro64(DG)
3695-T3U	Xeon E3-1280V2	1600MHz ECC	8GBx1	No	1x1TB 3.5" SATA	No	No	DVD±RW	Quadro K600	No	Switch	Stand	Win8 Pro64
3695-T4U	Xeon E3-1245V2	1600MHz ECC	8GBx1	No	1x1TB 3.5" SATA	No	No	DVD±RW	Quadro 410	No	Switch	Stand	Win8 Pro64
3695-T5U	Xeon E3-1245V2	1600MHz ECC	8GBx1	No	1x1TB 3.5" SATA	No	No	DVD±RW	Quadro 410	No	Switch	Stand	Win7 Pro64(DG)

	that this is a Global Model ndows 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit	
Processor	Intel® Xeon® E3-1245V2 processor (4C/8T, 3.4GHz, 8MB Cache), Turbo Boost 2.0 (up to 3.8GHz), integrated Intel HD Graphics P4000, DDR3 memory controller (up to 1600MHz) Intel Xeon E3-1280V2 processor (4C/8T, 3.6GHz, 8MB Cache), Turbo Boost 2.0 (up to 4.0GHz), DDR3 memory controller (up to 1600MHz)	Small Desktop ③ disk optical
Implementation	One LGA1155 socket 32GB max, UDIMM, PC3-12800 1600MHz DDR3, ECC or non-ECC.	
Memory Additional memory disclaimers	Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs Mixing of ECC and non-ECC memory is not supported	Raven black color; metal case 13.35"W x 15.0"D x 3.93"H 339mm W x 381.1mm D x 99.7mm H 16.53 lb (7.5kg) max configuration 11-liter
Graphics	Some: Intel HD Graphics in processor, uses main memory, works along with discrete graphics to support multi-display; (detailed graphics model name please see Processor section, connector information please see Rear ports section) Some: NVIDIA® Quadro® 410, PCle x16 adapter, 512MB, one DisplayPort™, one dual-link DVI-I, 37W Some: NVIDIA Quadro K600, PCle x16 adapter, 1GB, one DisplayPort, one dual-link DVI-I, 41W	 Toolless top cover removal Toolless disk and optical drive removal Toolless adapter retention Recessed power button Bay 1: 5.25", 1.6" high, access, for optical/2nd disk Bay 2: 3.5", 0.5" high, access, for media reader Bay 3: 3.5", 1" high, internal, for disk
Media reader Optical SATA drive(s)	Media: 29-in-1 Media card reader, slim, internal USB 2.0 DVD, slim DVD, DVD±RW, slim DVD±RW, or Blu-ray, depending on model 3.5": SATA 6.0Gb/s, 7200 rpm, 3.5" 2.5": SATA 6.0Gb/s, 10000 rpm, 2.5" SSD: Solid State Drive, SATA 6.0Gb/s, 2.5"	Slot 1: Low Profile, PCle* x16 (45w max, near CPU) * PCle 2.0 x16 on Core i3/Pentium/Celeron models, PCle 3.0 x16 on Xeon/Core i5/Core i7 models Slot 2: Low Profile, PCle 2.0 x1
Onboard SATA	Two SATA 6.0Gb/s connectors (red), two SATA 3.0Gb/s connectors (orange), RAID 0, 1 support via Intel C216 Chipset (RAID can work on models with 2nd drive bay only)	Slot 3: Low Profile, 32-bit PCI 2.3 Slot 4: Low Profile, 32-bit PCI 2.3
Onboard SAS	None	Dual and an austing asset on 20
Chipset Front ports	Two USB 2.0, microphone (3.5mm), headphone (3.5mm)	Preloaded operating system ²⁰ Some: Windows® 7 Professional 64
Rear ports	Two USB 2.0, four USB 3.0 (blue), one serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in), one analog VGA DB-15 connector, one DisplayPort connector (Onboard VGA and DisplayPort™ are functional when the following processors are used: Xeon E3-12X5V2, Core i7, i5, i3, Pentium, and Celeron processors) No onboard 1394 ports; 1394 models: additional FireWire PCIe adapter, 1394a-2000,	Some: Windows 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit Some: Windows 8 Pro 64-bit Preloaded applications ⁵ (only some listed) -Windows 7 models
Audio Speaker Ethernet Security chip	400Mbps, two 6-pin ports on rear High Definition (HD) Audio, Realtek® ALC662 codec Internal speaker for business audio One onboard gigabit ethernet, Intel 82579 STMicroelectronics ST33ZP24 Trusted Platform Module (TPM), TCG 1.2-compliant	 Rescue and Recovery® Norton™ Internet Security (30 days of virus definitions) Adobe® Reader® Microsoft® Office 2013 preloaded; purchase product key to activate Corel® WinDVD® (DVD±RW model(s)) Ulead® DVD MovieFactory® (DVD±RW model(s))
Keyboard Mouse Vertical Stand Power supply	Preferred Pro USB Keyboard (USB connector), 104-key, black Optical Wheel Mouse (USB connector), black Some: Vertical stand with retractable tongue for vertical orientation 240 watts with variable speed fan, autosensing, 85% PSU, Climate Savers® Computing Bronze, 80 PLUS® Bronze qualified	-Windows 8 models • Evernote® • Norton Internet Security (30 days of virus definitions) • Norton Studio • Skype™ • Microsoft Office 2013 preloaded;
Limited Warranty	3-year parts and labor, more Lenovo® services see S-TS sheet	purchase product key to activate
Eco-Label and environmental certifications	GREENGUARD® certified RoHS-compliant EPEAT™ Gold rating	Cyberlink Power2Go (DVD±RW model(s)) Cyberlink PowerProducer (DVD±RW model(s)) SECURITY
ISV certifications Intel AMT	See the latest list of ISV certifications at www.lenovo.com/support/ISV Intel AMT supported on model(s) with Xeon processor	Security chip (see information on left) 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 Serial port I/O control USB port disablement (front or all/individual) Chassis intrusion switch available on selected model(s)

ThinkStation® E31 SFF (3690)

Type- model Proc	essor	Memory (MHz/ECC)	Memory I	Pre-conf RAID	Disk(s)	Media reader	SATA optical	2nd Disk bay	Graphics	1394 adptr		Chassis intrusion switch			Win7 preload
3690-E6U Core i3- 3690-E9U Xeon E3 3690-F1U Xeon E3 3690-F3U Xeon E3 3690-F3U Xeon E3 3690-F4U Xeon E3 3690-F6U Xeon E3	3-1230V2 3-1245V2 3-1245V2 3-1245V2 3-1275V2	1600MHz ECC 1600MHz ECC 1600MHz ECC 1600MHz ECC 1600MHz ECC	1x4GB 1x4GB 1x4GB 1x4GB 1x4GB 1x4GB 1x4GB 1x4GB	No No No No No	1x500GB SATA 1x500GB SATA 1x500GB SATA 1x500GB SATA 1x1TB SATA 1x500GB SATA 1x500GB SATA 1x1TB SATA	Media Media Media Media Media	DVD±RW DVD±RW DVD±RW DVD±RW DVD±RW DVD±RW DVD±RW DVD±RW DVD±RW	No No No No No No	Quadro 400 Quadro 400 Intel HD P4000 Quadro 400 Quadro 600 Intel HD P4000 Quadro 400 Quadro 600	No No	No No No No No No No	No No No No No No No	No No No No No No No	No No No No No No No	Pro 64 Pro 64 Pro 64 Pro 64 Pro 64 Pro 64 Pro 64
Implementation Memory Additional memory	integration integrated intel Xe Turbo E Intel Xe Turbo E DDR3 r Intel Xe Turbo E DDR3 r One LG 32GB r four 240	Core [™] i3-2130 pted Intel HD Graeon [®] E3-1230V280ost 2.0 (up to eon E3-1245V280ost 2.0 (up to memory controlleon E3-1275V280ost 2.0 (up to memory controlleon E3-1155 socket max, UDIMM, POpin DIMM socil memory operatin	phics 200 2 process 3.7GHz), process 3.8GHz), er (up to 1 process 3.9GHz), er (up to 1 C3-12800 kets;	DO, DDR: sor (4C/8 DDR3 m or (4C/8 integrate 1600MH or (4C/8 integrate 1600MH	3 memory cont BT, 3.3GHz, 8M nemory controll T, 3.4GHz, 8MI ed Intel HD Gra z) T, 3.5GHz, 8MI ed Intel HD Gra z)	roller (up to B Cache er (up to B Cache uphics Pophics	p to 1333MH ie), o 1600MHz) i), 4000, i), 4000,		• Raven black cc • 13.35"W x 15.0 • 339mm W x 38 • 16.53 lb (7.5kg • 11-liter • Toolless top co • Toolless disk a)"D x 3 31.1mr) max ver re	etal ca 3.93"H m D x 9 configu	99.7mm H uration			
disclaimers Graphics	control Mixing Some: Some: Some:	Iller speed, installer of ECC and non- Intel HD Graph discrete graphic Xeon E3-1225V Core i3-2120/21 Pentium/Celeron (connector infor NVIDIA® Quadrone DisplayPort NVIDIA Quadrone DisplayPort ON DisplayPort One DisplayPort	d memory: ECC memory ics in properties to support 2/1245V2 30: mmation ple o® 400, P ™, one du o 600, PCI	speed, ar ory is not cessor, u ort multi- /1275V2 ease see Cle x16 ial-link E	d quantity of messupported uses main mem display; 2: Intel HD Gra Intel HD Gra Intel HD Gra Intel HD Gra e Rear ports se adapter, 512M VI-I, 32W dapter, 1GB,	nory DIM nory, wo phics Pa phics 20 phics pection)	rks along wit	th	Bay 1: 5.25", 1.6 Bay 2: 3.5", 0.8 Bay 3: 3.5", 0.8 Bay 3: 3.5", 1" Slot 1: Low Proferson Keeping State on Canada State on Canada State on Canada State on Canada State on Xeon mood Slot 2: Low Proferson From State on Xeon Proferson State on Xeon	er rete er but 6" high 5" high high, ile, Core i3/	ention ton n, acces n, acces interr PCIe	ss, for ss, for nal, for	optic medi disk w max		r PU)
Media reader Optical Disk(s)	Super M 250GB/ 150GB/ 128GB/ Two SA	29-in-1 Media of Multi-Burner DL /500GB/1TB/2T /300GB/600GB /180GB/256GB	DVD±RW B/3TB SA SATA: SSD: nectors (re	SATA 1 TA: SA SA Sol ed), two	.5Gb/s Drive TA 6.0Gb/s, 720 TA 6.0Gb/s, 100 id State Drive, SATA 3.0Gb/s	00 rpm, 000 rpm SATA 6. connect	, 2.5" 0Gb/s, 2.5" tors (orange)	,	Slot 3: Low Prof	ile,		it PCI 2.3 it PCI 2.3			
	disk bay	, 1 support via I y)	ntel C216	Cnipsei	(RAID only wo	ork on m	iodeis with 21	na I	Intel AMT suppo				Xeon	proces	sor
Onboard SAS	None	040 01:1:						_	Pre	loade	ed oper	rating sy	stem	20	
Front ports Rear ports	Two US Two US three an connec (Onboa are use Celeror PS/2 m		3 3.0 (blue ts (line-in, Port conn playPort a 5V2/1245 al PS/2 ke 2 rear I/O	e), one so line-out ector are funct V2/1275 eyboard	erial (9-pin), on, , mic-in), one a ional when the 5V2, Core i3-21	e etherr nalog Vo followin 20/2130	GA DB-15 ² g processors), Pentium, a	s ind	Preloade Rescue and Re Norton® Intern Adobe® Reade Microsoft® Offii purchase prod Corel® WinDVE Ulead® DVD M	rofessi d applecover et Sec r [®] ce 201 uct ker o [®] (DV	ional 64 licatior ry® curity (3 13 prelo y to act D±RW	the state of the s	<i>som</i> of virus	<i>e listed</i> s definiti	,
Audio Speaker Ethernet Security chip	High De Internal One on STMicro	oard 1394 ports nodels: additiona	s; al FireWire s, two 6-pi udio, Realt siness aud hernet, In	e PCIe a in ports tek® ALC dio tel 8257	on rear 0662 codec 9	·			Security chip (Security slot (i Kensington® N prohibits side (i Power-on pass Administrator i Boot sequence	see in n rear dicrosa cover i sword passw e conti	formati for opti aver® c remova ord	iTY ion on left ional able; il)			
Keyboard Mouse Vertical Stand Power supply	Preferre Optical Some: 240 wa Climate	ed Pro USB Key Wheel Mouse (Vertical stand w tts with variable e Savers® Com	USB conn vith retract speed far puting Br	nector), k table tor n, autose ronze , 8	plack ague for vertical ensing, 85% PS 0 PLUS® Bron	l orienta SU, ze qual i	ified		Boot without kesserial port I/O USB port disal Chassis intrus	eyboa contro oleme ion sw	rd, mou ol nt (fron <i>itch av</i> SV cert	t or all/ind ailable or	n sele s		odel(s)
Limited Warranty	3-year ı	parts and labor,	more Len	iovo [®] se	rvices see S-TS	S sheet			Please visit www GREENGUARD RoHS-compliant EPEAT™ Gold r ENERGY STAR More compatible	ecertifications of the control of th	fied ompliar	nt)-ROC s	heet

ThinkStation $^{\circ}$ E31 SFF (3690) - June 5, 2012

								2nd				Chassis	PS/2		
Type-		Memory	Memory I	Pre-conf	1	Media	SATA	Disk	Graphics	1394		intrusion	rear	Vertical	Win7
model	Processor	(MHz/ECC)	DIMMs	RAID	Disk(s)	reader	optical	bay	adapter(s)	adptr	Global	switch	I/O	stand	preload
3690-E7U	Core i5-3550	1600MHz Non-ECC	1x4GB	No	1x500GB SATA	Media	DVD±RW	No	Quadro 400	No	No	No	No	No	Pro 64
3690-E8U	Core i5-3550	1600MHz Non-ECC	1x4GB	No	1x1TB SATA	Media	DVD±RW	No	Quadro 600	No	No	No	No	No	Pro 64

Processor	Intel [®] Core [™] i5-3550 processor (4C/4T, 3.3GHz, 6MB Cache),	Small Desktop
	integrated Intel HD Graphics 2500,	·
Implementation	Turbo Boost 2.0 (up to 3.7GHz), DDR3 memory controller (up to 1600MHz)	3 disk optical
Implementation	One LGA1155 socket	
Memory	32GB max, UDIMM, PC3-12800 1600MHz DDR3, ECC or non-ECC, four 240-pin DIMM sockets;	©
Additional memory disclaimers	 Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs Mixing of ECC and non-ECC memory is not supported 	Raven black color; metal case 13.35"W x 15.0"D x 3.93"H 339mm W x 381.1mm D x 99.7mm H
Graphics	Some: NVIDIA® Quadro® 400, PCle x16 adapter, 512MB, one DisplayPort™, one dual-link DVI-I, 32W Some: NVIDIA Quadro 600, PCle x16 adapter, 1GB, one DisplayPort, one dual-link DVI-I, 40W	 16.53 lb (7.5kg) max configuration 11-liter Toolless top cover removal Toolless disk and optical drive removal
Media reader	Media: 29-in-1 Media card reader, slim, internal USB 2.0	Toolless adapter retention Recessed power button
Optical	Super Multi-Burner DL DVD±RW SATA 1.5Gb/s Drive	- Hoodood power button
Disk(s)	250GB/500GB/1TB/2TB/3TB SATA: SATA 6.0Gb/s, 7200 rpm, 3.5" 150GB/300GB/600GB SATA: SATA 6.0Gb/s, 10000 rpm, 2.5" 128GB/180GB/256GB SSD: Solid State Drive, SATA 6.0Gb/s, 2.5"	Bay 1: 5.25", 1.6" high, access, for optical/2nd disk
Onboard SATA	Two SATA 6.0Gb/s connectors (red), two SATA 3.0Gb/s connectors (orange), RAID 0, 1 support via Intel C216 Chipset (RAID only work on models with 2nd disk bay)	Bay 2: 3.5", 0.5" high, access, for media reader Bay 3: 3.5", 1" high, internal, for disk
Onboard SAS	None	Slot 1: Low Profile, PCIe* x16 (45w max, near CPU)
Chipset	Intel C216 Chipset	* PCIe 2.0 x16 on Core i3/Pentium/Celeron models,
Front ports	Two USB 2.0, microphone (3.5mm), headphone (3.5mm)	PCle 3.0 x16 on Xeon/Core i5/Core i7 models
Rear ports	Two USB 2.0, four USB 3.0 (blue), one serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in), one analog VGA DB-15 connector, one DisplayPort connector (Onboard VGA and DisplayPort are functional when the following processors are used: Xeon E3-1225V2/1245V2/1275V2, Core i7-3770,	Slot 2: Low Profile, Slot 3: Low Profile, Slot 4: Low Profile, 32-bit PCI 2.3 32-bit PCI 2.3
	Core i5-3450/3550, Core i3-2120/2130, Pentium, and Celeron processors)	
IEEE 1204 odotr	PS/2 models: additional PS/2 keyboard and mouse connectors via PS/2 rear I/O cable No onboard 1394 ports;	Intel AMT Intel AMT supported on model(s) with Xeon processor
IEEE 1394 adptr	1394 models: additional FireWire PCIe adapter, 1394a-2000,	
	400Mbps, two 6-pin ports on rear	Preloaded operating system ²⁰
Audio Speaker	High Definition (HD) Audio, Realtek® ALC662 codec Internal speaker for business audio	Windows® 7 Professional 64
Ethernet	One onboard gigabit ethernet, Intel 82579	Preloaded applications ⁵ (only some listed) • Rescue and Recovery®
Security chip	STMicroelectronics ST33ZP24 Trusted Platform Module (TPM), TCG 1.2-compliant	Norton® Internet Security (30 days of virus definitions) Adobe® Reader®
Keyboard	Preferred Pro USB Keyboard (USB connector), 104-key, black	Microsoft® Office 2013 preloaded;
Mouse	Optical Wheel Mouse (USB connector), black	purchase product key to activate
Vertical Stand	Some: Vertical stand with retractable tongue for vertical orientation	Corel® WinDVD® (DVD±RW model(s)) Ulead® DVD MovieFactory® (DVD±RW model(s))
Power supply	240 watts with variable speed fan, autosensing, 85% PSU,	SECURITY
I too too at NAC	Climate Savers® Computing Bronze, 80 PLÜS® Bronze qualified	Security chip (see information on left)
Limited Warranty	3-year parts and labor, more Lenovo® services see S-TS sheet	Security cnip (see information on left) Security slot (in rear for optional Kensington® Microsaver® cable; prohibits side cover removal)
		Power-on password
		Administrator password
		Boot sequence control Boot without keyboard mayor
		Boot without keyboard, mouse Serial port I/O control
		USB port disablement (front or all/individual) Chassis intrusion switch available on selected model(s)
		ISV certifications Please visit www.lenovo.com/support/ISV
		GREENGUARD® certified
		RoHS-compliant
		EPEAT™ Ġold rating ENERGY STAR 5.2-compliant
		More compatible accessories please see O-ROC sheet

More compatible accessories, please see O-ROC sheet

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						2nd			Chassis	DS/2	
	Memory essor (MHz/ECC)	Memory Pre-conf DIMMs RAID	Disk(s)	Media reade	r optical	Disk bay	Graphics adapter(s)	1394 adptr Global	intrusion switch	rear \	stand
3690-KUU Xeon E3 3690-KVU Xeon E3 3690-KWU Core i3- 3690-KYU Core i5- 3690-KZU Xeon E3	3550 1600MHz Non-ECC 3770 1600MHz Non-ECC -1230V2 1600MHz ECC -1245V2 1600MHz ECC -1275V2 1600MHz ECC 2130 1600MHz ECC 3550 1600MHz Non-ECC -1230V2 1600MHz ECC -1245V2 1600MHz ECC	1x4GB No 1x4GB No 1x4GB No 1x4GB No 1x4GB No 1x4GB No 1x4GB No 1x4GB No	1x128GB SSD 1x180GB SSD 1x180GB SSD 1x180GB SSD 1x180GB SSD 1x256GB SSD 1x500GB SATA 1x500GB SATA 1x500GB SATA 1x1TB SATA	No No No	Slim DVD±RV Slim DVD±RV Slim DVD±RV Slim DVD±RV Slim DVD±RV Slim DVD±RV	V 2nd V 2nd V 2nd V 2nd	Intel HD 2000 Quadro 400 Quadro 600 Quadro 400 Quadro 400 Quadro 600 Intel HD 2000 Quadro 400 Quadro 400 Quadro 600	No No No No No No No No	Switch Switch Switch Switch Switch Switch Switch Switch Switch	No No No No No No No	Stand Stand Stand Stand Stand Stand Stand Stand Stand Stand Stand Stand Stand
Processor	Intel® Core™ i3-2130 prointegrated Intel HD Graphi Intel Core i5-3550 proces integrated Intel HD Graphi Turbo Boost 2.0 (up to 3.7 Intel Core i7-3770 proces integrated Intel HD Graphi Turbo Boost 2.0 (up to 3.9 Intel Xeon® E3-1230V2 prour Turbo Boost 2.0 (up to 3.7 Intel Xeon E3-1245V2 prour Up to 3.9 Intel Xeon E3-1275V2 prour Up to 3.9 Int	cs 2000, DDR3 mesor (4C/4T, 3.3G cs 2500, GHz), DDR3 mensor (4C/8T, 3.4G cs 4000, GHz), DDR3 menocessor (4C/8T, GHz), DDR3 menocessor (4C/8T, GHz), integrated up to 1600MHz) ccessor (4C/8T, GHz), integrated decessor (4C/8T, GHz), integrated decessor (4C/8T, GHz), integrated	nemory controll Hz, 6MB Cach hory controller Hz, 8MB Cach hory controller 3.3GHz, 8MB hory controller 8.4GHz, 8MB C htel HD Graph 8.5GHz, 8MB C	er (up e), (up to e), (up to Cache (up to cache) ics P40	1600MHz) 1600MHz)), 1600MHz)	(3) 2nd disk (3) 2nd disk (3) disk Bay 1: 5.25	optical	upports one 1.6" high op	of the follotical, acce	n optical d disk	:
Implementation	DDR3 memory controller (One LGA1155 socket	up to 1600MHz)					Irive bay (inter 3.5" 2nd disk d		rnol		
Memory	32GB max, UDIMM, PC3- four 240-pin DIMM sockets • Actual memory operating sp	s;	·		ECC,	Bay 2: 3.5" (not availal	, 0.5" high, acc ole on slim opt , 1" high, interi	cess, for opti ical models)	onal med	ia rea	der
disclaimers	controller speed, installed m Mixing of ECC and non-ECC	emory speed, and o	quantity of memor		<i>l</i> s	Slot 1: Low		PCle* x16 (4	5w max, ne	ar CPL	J)
Graphics Media reader	Some: Intel HD Graphics discrete graphics to Xeon E3-1225V2/1 Core i7-3770: Core i3-2120/2130: Pentium/Celeron: (connector informa: Some: NVIDIA® Quadro® one DisplayPort™, Some: NVIDIA Quadro 60 one DisplayPort, or Media: 29-in-1 Media card	support multi-dis 245V2/1275V2: 3550: tion please see R 400, PCIe x16 ad one dual-link DVI- 0, PCIe x16 adap e dual-link DVI-I,	play; Intel HD Graph Intel HD Graph Intel HD Graph Intel HD Graph Intel HD Graph ear ports sect apter, 512MB, 1, 32W Iter, 1GB, 40W	ics P40 ics 400 ics 250 ics 200 ics	000 00 00	PCle 3.0 xi Slot 2: Low Slot 3: Low Slot 4: Low • Raven bla • 13.35 W • 339mm W • 16.53 lb (* • 11-liter • Toolless to • Toolless a	16 on Xeon/Core 17 Profile, F 17 Profile, G 17 Profile, G 18 Profile, G	i5/Core i7 mod PCIe 2.0 x1 32-bit PCI 2.3 32-bit PCI 2.3 I case 3"H 0 x 99.7mm I nfiguration val I drive remove	dels 3 3		
Optical	Some: DVD±RW, SATA, s	lim				• Recessed	power button		- 00		
Onboard SATA	250GB/500GB/1TB/2TB/3 150GB/300GB/600GB SA 128GB/180GB/256GB SS Two SATA 6.0Gb/s connec RAID 0, 1 support via Intel disk bay)	TA: SATA D: Solid Stors (red), two SA	6.0Gb/s, 10000 State Drive, SA TA 3.0Gb/s co	rpm, 1 TA 6.00 nnecto	2.5" Gb/s, 2.5" rs (orange),	Some: Win	Preloaded of ndows® 7 Professionstalled throughts in Windows ndows 8 Pro 6	essional 64 ssional 64 Igh downgra s 8 Pro 64-bi	de		
Onboard SAS Chipset	None Intel C216 Chipset						paded applica	tions⁵ <i>(onl</i> y	some lis	sted)	
Front ports Rear ports	Two USB 2.0, microphone Two USB 2.0, four USB 3.0 three analog audio ports (I connector, one DisplayPor (Onboard VGA and Displar are used: Xeon E3-1225V Core i5-3450/3550, Core is PS/2 models: additional F	0 (blue), one serial ine-in, line-out, mut connector Port are function 2/1245V2/1275V23-2120/2130, Per	al (9-pin), one e ic-in), one anal al when the fol 2, Core i7-3770 itium, and Cele	log VG lowing ron pro	A DB-15	Norton TM Adobe® R Microsoft® purchase Corel® Wil Ulead® DV -Windows 8	nd Recovery® Internet Secur leader® ® Office 2013 p product key to nDVD® (DVD± VD MovieFacto	oreloaded; activate RW model(s ory® (DVD±F)) W model	(s))	,
IEEE 1394 adptr	No onboard 1394 ports; 1394 models: additional Fi 400Mbps, tv	reWire PCIe ada _l vo 6-pin ports on		00,		Norton StMicrosoft		eloaded;			
Audio Speaker Ethernet Security chip	High Definition (HD) Audio Internal speaker for busine One onboard gigabit ether STMicroelectronics ST332 TCG 1.2-compliant	, Realtek [®] ALC66 ss audio net, Intel 82579	2 codec	PM),		Cyberlink Cyberlink Security (Power2Go (D' PowerProduc	VD±RW moder (DVD±RW URITY mation on let	/ model(s))	
Keyboard Mouse Vertical Stand Power supply	Preferred Pro USB Keyboa Optical Wheel Mouse (USI Some: Vertical stand with 240 watts with variable spe Climate Savers Comput	3 connector), blace retractable tongue ed fan, autosens ing Bronze, 80 F	ck e for vertical or ing, 85% PSU, PLUS® Bronze	ientatio		Kensingto prohibits: Power-on Boot sequence Boot with	on® Microsave side cover rem and administruence control out keyboard, rt I/O control	r® cable; noval) ator passwo	rd		
Limited Warranty ISV certifications Intel AMT	3-year parts and labor, mo See the latest list of ISV co Intel AMT supported on mo	ertifications at ww	w.lenovo.com/s		t/ISV	 USB port Chassis i 	disablement (ntrusion switch atible accesso	n available o	n selectéd		_ ` /
Can factnatan for in	nortant warranty informatio	_								0.1	anovo

ThinkStation® E31 SFF (3690) - March 2013

						2nd					Chassis		
Type-		Memory	Memory	Pre-conf	SATA	drive	Media	SATA	Graphics	1394	intrusion	Vertical	Preload
model ¹	Processor	(MHz/ECC)	DIMMs	RAID	drive(s)	bay	reader	optical	adapter(s)	adptr	switch	stand	OS ²
3690-QGU	Core i5-3570	1600MHz Non-ECC	1x4GB	No	1x1TB 3.5"		Media	DVD±RW	Quadro K600	No	Switch	Stand	Win7 Pro64(DG)
3690-QHU	Core i5-3570	1600MHz Non-ECC	1x4GB	No	1x1TB 3.5"		Media	DVD±RW	Quadro K600	No	Switch	Stand	Win8 Pro64
3690-QJU	Xeon E3-1245V2	1600MHz Non-ECC	1x4GB	No	1x1TB 3.5"		Media	DVD±RW	Quadro K600	No	Switch	Stand	Win8 Pro64
3690-QKU	Xeon E3-1245V2	1600MHz Non-ECC	1x4GB	No	1x1TB 3.5"		Media	DVD±RW	Quadro K600	No	Switch	Stand	Win7 Pro64(DG)
3690-QLU	Xeon E3-1275V2	1600MHz Non-ECC	1x4GB	No	1x1TB 3.5"		Media	DVD±RW	Quadro K600	No	Switch	Stand	Win7 Pro64(DG)
3690-QMU	Xeon E3-1275V2	1600MHz Non-ECC	1x4GB	No	1x1TB 3.5"		Media	DVD±RW	Quadro K600	No	Switch	Stand	Win8 Pro64
3690-QNU	Core i3-3220	1600MHz Non-ECC	1x4GB	No	1x128GB SSD	2nd		Slim DVD±RW	Intel HD 2500	No	Switch	Stand	Win7 Pro64(DG)

1 Model in italics shows 2 Win7 Pro64(DG) = Wi	that this is a Global Model ndows 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit	
Processor	Intel® Core™ i3-3220 processor (2C/4T, 3.3GHz, 3MB Cache),	Small Desktop
	integrated Intel HD Graphics 2500, DDR3 memory controller (up to 1600MHz)	(1) Optional 1.6" high optical (2) Slim optical + 2nd disk
	Intel Core i5-3570 processor (4C/4T, 3.4GHz, 6MB Cache), integrated Intel HD Graphics 2500,	3 disk optical 3 disk slim optical
	Turbo Boost 2.0 (up to 3.8GHz), DDR3 memory controller (up to 1600MHz)	2nd disk
	Intel Xeon® E3-1245V2 processor (4C/8T, 3.4GHz, 8MB Cache), Turbo Boost 2.0 (up to 3.8GHz), integrated Intel HD Graphics P4000,	
	DDR3 memory controller (up to 1600MHz)	(3) 2nd disk
	Intel Xeon E3-1275V2 processor (4C/8T, 3.5GHz, 8MB Cache), Turbo Boost 2.0 (up to 3.9GHz), integrated Intel HD Graphics P4000,	③ disk 2nd disk
	DDR3 memory controller (up to 1600MHz)	<u> </u>
Implementation	One LGA1155 socket 32GB max, UDIMM, PC3-12800 1600MHz DDR3, ECC or non-ECC.	Bay 1: 5.25", 1.6" high, supports one of the following:
Memory	four 240-pin DIMM sockets;	(1) optional 5.25", 1.6" high optical, access
	Actual memory operating speed depends on processor memory	(2) 5.25" slim optical (access) and 3.5" 2nd disk drive bay (internal)
disclaimers	controller speed, installed memory speed, and quantity of memory DIMMs • Mixing of ECC and non-ECC memory is not supported	(3) 3.5" 2nd disk drive bay, internal
Graphics	Some: Intel HD Graphics in processor, uses main memory, works along with	Bay 2: 3.5", 0.5" high, access, for optional media reader (not available on slim optical models)
•	discrete graphics to support multi-display;	Bay 3: 3.5", 1" high, internal, for disk drive
	(detailed graphics model name please see Processor section, connector information please see Rear ports section)	Slot 1: Low Profile PCIo* v16 (45: mov mov CDII)
	Some: NVIDIA® Quadro® K600, PCle x16 adapter, 1GB,	Slot 1: Low Profile, PCle* x16 (45w max, near CPU) * PCle 2.0 x16 on Core i3/Pentium/Celeron models,
Media reader	one DisplayPort, one dual-link DVI-I, 41W	PCIe 3.0 x16 on Xeon/Core i5/Core i7 models
Optical	Media: 29-in-1 Media card reader, slim, internal USB 2.0 DVD, slim DVD, DVD±RW, slim DVD±RW, or Blu-ray, depending on model	Slot 2: Low Profile, PCIe 2.0 x1 Slot 3: Low Profile, 32-bit PCI 2.3
SATA drive(s)	3.5": SATA 6.0Gb/s, 7200 rpm, 3.5"	Slot 4: Low Profile, 32-bit PCI 2.3
	2.5": SATA 6.0Gb/s, 10000 rpm, 2.5" SSD: Solid State Drive, SATA 6.0Gb/s, 2.5"	Raven black color; metal case 13.35"W x 15.0"D x 3.93"H
Onboard SATA	Two SATA 6.0Gb/s connectors (red), two SATA 3.0Gb/s connectors (orange),	• 339mm W x 381.1mm D x 99.7mm H
	RAID 0, 1 support via Intel C216 Chipset (RAID can work on models with 2nd drive bay only)	16.53 lb (7.5kg) max configuration11-liter
Onboard SAS	None	Toolless top cover removal
Chipset	Intel C216 Chipset	Toolless disk and optical drive removal Toolless adapter retention
Front ports	Two USB 2.0, microphone (3.5mm), headphone (3.5mm)	Recessed power button
Rear ports	Two USB 2.0, four USB 3.0 (blue), one serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in), one analog VGA DB-15	Preloaded operating system ²⁰
	connector, one DisplayPort connector	Some: Windows® 7 Professional 64
	(Onboard VGA and DisplayPort [™] are functional when the following processors are used: Xeon E3-12X5V2, Core i7, i5, i3, Pentium, and Celeron processors)	Some: Windows 7 Professional 64 preinstalled through downgrade
IEEE 1394 adptr	No onboard 1394 ports;	rights in Windows 8 Pro 64-bit
	1394 models: additional FireWire PCIe adapter, 1394a-2000, 400Mbps, two 6-pin ports on rear	Some: Windows 8 Pro 64-bit
Audio	High Definition (HD) Audio, Realtek® ALC662 codec	Preloaded applications ⁵ (only some listed) -Windows 7 models
Speaker Ethernet	Internal speaker for business audio One onboard gigabit ethernet, Intel 82579	Rescue and Recovery®
Security chip	STMicroelectronics ST33ZP24 Trusted Platform Module (TPM),	 Norton™ Internet Sećurity (30 days of virus definitions) Adobe® Reader®
	TCG 1.2-compliant	Microsoft® Office 2013 preloaded;
Keyboard Mouse	Preferred Pro USB Keyboard (USB connector), 104-key, black Optical Wheel Mouse (USB connector), black	purchase product key to activate • Corel® WinDVD® (DVD±RW model(s))
Vertical Stand	Some: Vertical stand with retractable tongue for vertical orientation	Ulead® DVD MovieFactory® (DVD±RW model(s))
Power supply	240 watts with variable speed fan, autosensing, 85% PSU,	-Windows 8 models
Lincite of M/o way arts	Climate Savers® Computing Bronze, 80 PLUS® Bronze qualified	 Norton Internet Security (30 days of virus definitions) Norton Studio
Limited Warranty Eco-Label and	3-year parts and labor, more Lenovo® services see S-TS sheet GREENGUARD® certified	Microsoft Office 2013 preloaded;
environmental	RoHS-compliant	purchase product key to activate • Cyberlink Power2Go (DVD±RW model(s))
certifications	EPEAT™ Gold rating ENERGY STAR 5.2-compliant	 Cyberlink PowerProducer (DVD±RW model(s))
ISV certifications	See the latest list of ISV certifications at www.lenovo.com/support/ISV	SECURITY
Intel AMT	Intel AMT supported on model(s) with Xeon processor	Security chip (see information on left)Security slot (in rear for optional
		Kensington® Microsaver® cable;
		prohibits side cover removal) Power-on and administrator password
		Boot sequence control
		Boot without keyboard, mouse Serial port I/O control
		 USB port disablement (front or all/individual)
		Chassis intrusion switch available on selected model(s)
		Mara compatible accessories places and O POC shoot

More compatible accessories, please see O-ROC sheet

ThinkStation® E31 SFF (3690) - March 2013 - II

Type- model ¹	Processor	Memory (MHz/ECC)	Memory DIMMs	Pre-conf RAID	SATA drive(s)		Media reader	SATA optical	Graphics adapter(s)	1394 adptr	Chassis intrusion switch	Vertical stand	Preload OS ²
3690-QPU	Core i3-3240	1600MHz Non-ECC	1x4GB	No	1x128GB SSD	2nd	No	Slim DVD±RW	Intel HD 2500	No	Switch	Stand	Win7 Pro64(DG)
3690-QQU	Core i3-3240	1600MHz Non-ECC	1x4GB	No	1x128GB SSD	2nd	No	Slim DVD±RW	Intel HD 2500	No	Switch	Stand	Win8 Pro64
3690-QRU	Core i3-3220	1600MHz Non-ECC	1x4GB	No	1x128GB SSD	2nd	No	Slim DVD±RW	Intel HD 2500	No	Switch	Stand	Win8 Pro64
3690-QSU	Core i5-3570	1600MHz Non-ECC	1x4GB	No	1x180GB SSD	2nd	No	Slim DVD±RW	Quadro 410	No	Switch	Stand	Win7 Pro64(DG)
3690-QTU	Core i5-3570	1600MHz Non-ECC	1x4GB	No	1x180GB SSD	2nd	No	Slim DVD±RW	Quadro 410	No	Switch	Stand	Win8 Pro64
3690-QUU	Core i7-3770	1600MHz Non-ECC	1x4GB	No	1x180GB SSD	2nd	No	Slim DVD±RW	Quadro K600	No	Switch	Stand	Win7 Pro64(DG)
3690-QVU	Core i7-3770	1600MHz Non-ECC	1x4GB	No	1x180GB SSD	2nd	No	Slim DVD±RW	Quadro K600	No	Switch	Stand	Win8 Pro64

- Model in italics shows that this is a Global Model Win7 Pro64(DG) = Windows 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit

Intel® Core™ i3-3220 processor (2C/4T, 3.3GHz, 3MB Cache), Processor integrated Intel HD Graphics 2500, DDR3 memory controller (up to 1600MHz) Intel Core i3-3240 processor (2C/4T, 3.4GHz, 3MB Cache), integrated Intel HD Graphics 2500, DDR3 memory controller (up to 1600MHz) Intel Core i5-3570 processor (4C/4T, 3.4GHz, 6MB Cache), integrated Intel HD Graphics 2500 Turbo Boost 2.0 (up to 3.8GHz), DDR3 memory controller (up to 1600MHz) Intel Core i7-3770 processor (4C/8T, 3.4GHz, 8MB Cache), integrated Intel HD Graphics 4000, Turbo Boost 2.0 (up to 3.9GHz), DDR3 memory controller (up to 1600MHz) Implementation One LGA1155 socket 32GB max, UDIMM, PC3-12800 1600MHz DDR3, ECC or non-ECC, Memory four 240-pin DIMM sockets; Additional memory Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs disclaimers • Mixing of ECC and non-ECC memory is not supported Some: Intel HD Graphics in processor, uses main memory, works along with Graphics discrete graphics to support multi-display; (detailed graphics model name please see Processor section,

connector information please see Rear ports section)
Some: NVIDIA® Quadro® 410, PCle x16 adapter, 512MB,

one DisplayPort, one dual-link DVI-I, 37W Some: NVIDIA Quadro K600, PCle x16 adapter, 1GB, one DisplayPort, one dual-link DVI-I, 41W

Media reader Media: 29-in-1 Media card reader, slim, internal USB 2.0 DVD, slim DVD, DVD±RW, slim DVD±RW, or Blu-ray, depending on model Optical 3.5": SATA 6.0Gb/s, 7200 rpm, 3.5" 2.5": SATA 6.0Gb/s, 10000 rpm, 2.5" SATA drive(s) SSD: Solid State Drive, SATA 6.0Gb/s, 2.5" Onboard SATA

Two SATA 6.0Gb/s connectors (red), two SATA 3.0Gb/s connectors (orange), RAID 0, 1 support via Intel C216 Chipset (RAID can work on models with 2nd drive bay only)

Onboard SAS

Chipset Intel C216 Chipset Two USB 2.0, microphone (3.5mm), headphone (3.5mm) Front ports

Rear ports Two USB 2.0, four USB 3.0 (blue), one serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in), one analog VGA DB-15

connector, one DisplayPort connector (Onboard VGA and DisplayPort™ are functional when the following processors are used: Xeon E3-12X5V2, Core i7, i5, i3, Pentium, and Celeron processors)

IEEE 1394 adptr No onboard 1394 ports; 1394 models: additional FireWire PCIe adapter, 1394a-2000,

400Mbps, two 6-pin ports on rear High Definition (HD) Audio, Realtek® ALC662 codec Audio Speaker Internal speaker for business audio

One onboard gigabit ethernet, Intel 82579 Ethernet Security chip STMicroelectronics ST33ZP24 Trusted Platform Module (TPM),

TCG 1.2-compliant Preferred Pro USB Keyboard (USB connector), 104-key, black

Keyboard Optical Wheel Mouse (USB connector), black Mouse Vertical Stand Some: Vertical stand with retractable tongue for vertical orientation Power supply

240 watts with variable speed fan, autosensing, 85% PSU, Climate Savers® Computing Bronze, 80 PLUS® Bronze qualified 3-year parts and labor, more Lenovo® services see S-TS sheet

Limited Warranty GREENGUARD® certified Eco-Label and environmental RoHS-compliant

certifications

EPEAT™ Gold rating ENERGY STAR 5.2-compliant

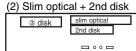
ISV certifications See the latest list of ISV certifications at www.lenovo.com/support/ISV Intel AMT

Intel AMT supported on model(s) with Xeon processor

Small Desktop

1) Optional 1.6" high optical

3 disk



(3) 2nd disk 3 disk

Bay 1: 5.25", 1.6" high, supports one of the following: (1) optional 5.25", 1.6" high optical, access (2) 5.25" slim optical (access) and 3.5" 2nd disk drive bay (internal)
(3) 3.5" 2nd disk drive bay, internal

Bay 2: 3.5", 0.5" high, access, for optional media reader (not available on slim optical models) Bay 3: 3.5", 1" high, internal, for disk drive

Slot 1: Low Profile, PCIe* x16 (45w max, near CPU) * PCIe 2.0 x16 on Core i3/Pentium/Celeron models, PCIe 3.0 x16 on Xeon/Core i5/Core i7 models Slot 2: Low Profile, PCIe 2.0 x1

Slot 3: Low Profile, 32-bit PCI 2.3 Slot 4: Low Profile. 32-bit PCI 2.3

- · Raven black color; metal case
- 13.35"W x 15.0"D x 3.93"H
- 339mm W x 381.1mm D x 99.7mm H
- 16.53 lb (7.5kg) max configuration

• 11-liter

- · Toolless top cover removal
- Toolless disk and optical drive removal
- Toolless adapter retention
- Recessed power button

Preloaded operating system²⁰

Windows® 7 Professional 64 Windows 7 Professional 64 Some: Some: preinstalled through downgrade rights in Windows 8 Pro 64-bit

Windows 8 Pro 64-bit Some:

Preloaded applications⁵ (only some listed)

-Windows 7 models

- Rescue and Recoverv[®]
- Norton™ Internet Security (30 days of virus definitions)
- Adobe® Reader®
- Microsoft® Office 2013 preloaded;

- purchase product key to activate
 Corel® WinDVD® (DVD±RW model(s))
 Ulead® DVD MovieFactory® (DVD±RW model(s))

-Windows 8 models

- Norton Internet Security (30 days of virus definitions)
- Norton Studio
- Microsoft Office 2013 preloaded;
- purchase product key to activate Cyberlink Power2Go (DVD±RW model(s))
- Cyberlink PowerProducer (DVD±RW model(s))

- Security chip (see information on left)
- Security slot (in rear for optional Kensington® Microsaver® cable; prohibits side cover removal)
 Power-on and administrator password
- · Boot sequence control
- Boot without keyboard, mouse
- Serial port I/O control
- USB port disablement (front or all/individual)
- Chassis intrusion switch available on selected model(s)

More compatible accessories, please see O-ROC sheet

ThinkStation® E31 SFF (3690) - March 2013 - III

						2nd					Chassis		
Type-		Memory	Memory	Pre-conf	SATA	drive	Media	SATA	Graphics	1394	intrusion	Vertical	Preload
model ¹	Processor	(MHz/ECC)	DIMMs	RAID	drive(s)	bay	reader	optical	adapter(s)	adptr	switch	stand	OS ²
3690-QWU	Xeon E3-1275V2	1600MHz Non-ECC	1x4GB	No	1x256GB SSD	2nd	No	Slim DVD±RW	Quadro K600	No	Switch	Stand	Win7 Pro64(DG)
3690-QYU	Xeon E3-1275V2	1600MHz Non-ECC	1x4GB	No	1x256GB SSD	2nd	No	Slim DVD±RW	Quadro K600	No	Switch	Stand	Win8 Pro64
3690-QZU	Xeon E3-1245V2	1600MHz Non-ECC	1x4GB	No	1x1TB 3.5"		No		Quadro K600	No	Switch	Stand	Win7 Pro64(DG)
3690-R1U	Xeon E3-1245V2	1600MHz Non-ECC	1x4GB	No	1x1TB 3.5"		No		Quadro K600	No	Switch	Stand	Win8 Pro64

Model in italics shows that this is a Global Model Win7 Pro64(DG) = Windows 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit

Intel® Xeon® E3-1245V2 processor (4C/8T, 3.4GHz, 8MB Cache), Small Desktop Turbo Boost 2.0 (up to 3.8GHz), integrated Intel HD Graphics P4000, (1) Optional 1.6" high optical (2) Slim optical + 2nd disk DDR3 memory controller (up to 1600MHz) Intel Xeon E3-1275V2 processor (4C/8T, 3.5GHz, 8MB Cache), 3 disk 3 disk Turbo Boost 2.0 (up to 3.9GHz), integrated Intel HD Graphics P4000, DDR3 memory controller (up to 1600MHz) Implementation One LGA1155 socket (3) 2nd disk 32GB max, UDIMM, PC3-12800 1600MHz DDR3, ECC or non-ECC, Memory four 240-pin DIMM sockets; 3 disk 2nd disk Additional memory · Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs disclaimers • Mixing of ECC and non-ECC memory is not supported Bay 1: 5.25", 1.6" high, supports one of the following: (1) optional 5.25", 1.6" high optical, access (2) 5.25" slim optical (access) and 3.5" 2nd disk Graphics NVIDIA Quadro K600. PCle x16 adapter. 1GB. one DisplayPort, one dual-link DVI-I, 41W drive bay (internal)
(3) 3.5" 2nd disk drive bay, internal Media reader Media: 29-in-1 Media card reader, slim, internal USB 2.0 Optical DVD, slim DVD, DVD±RW, slim DVD±RW, or Blu-ray, depending on model Bay 2: 3.5", 0.5" high, access, for optional media reader 3.5": SATA 6.0Gb/s, 7200 rpm, 3.5" 2.5": SATA 6.0Gb/s, 10000 rpm, 2.5" SATA drive(s) (not available on slim optical models) Bay 3: 3.5", 1" high, internal, for disk drive SSD: Solid State Drive, SATA 6.0Gb/s, 2.5" Onboard SATA Two SATA 6.0Gb/s connectors (red), two SATA 3.0Gb/s connectors (orange), Slot 1: Low Profile, PCIe* x16 (45w max, near CPU) RAID 0, 1 support via Intel C216 Chipset (RAID can work on models with 2nd * PCIe 2.0 x16 on Core i3/Pentium/Celeron models, drive bay only) PCIe 3.0 x16 on Xeon/Core i5/Core i7 models Onboard SAS None Slot 2: Low Profile, PCIe 2.0 x1 Chipset Intel C216 Chipset Slot 3: Low Profile, 32-bit PCI 2.3 Front ports Two USB 2.0, microphone (3.5mm), headphone (3.5mm) Slot 4: Low Profile, 32-bit PCI 2.3 Two USB 2.0, four USB 3.0 (blue), one serial (9-pin), one ethernet (RJ-45), Rear ports Raven black color; metal case three analog audio ports (line-in, line-out, mic-in), one analog VGA DB-15 13.35"W x 15.0"D x 3.93"H connector, one DisplayPort connector (Onboard VGA and DisplayPort[™] are functional when the following processors are used: Xeon E3-12X5V2, Core i7, i5, i3, Pentium, and Celeron processors) 339mm W x 381.1mm D x 99.7mm H 16.53 lb (7.5kg) max configuration • 11-liter PS/2 models: additional PS/2 keyboard and mouse connectors · Toolless top cover removal via PS/2 rear I/O cable Toolless disk and optical drive removal No onboard 1394 ports; IEEE 1394 adptr Toolless adapter retention 1394 models: additional FireWire PCIe adapter, 1394a-2000, Recessed power button 400Mbps, two 6-pin ports on rear Preloaded operating system²⁰ High Definition (HD) Audio, Realtek® ALC662 codec Audio Windows® 7 Professional 64 Windows 7 Professional 64 Internal speaker for business audio Speaker Some: One onboard gigabit ethernet, Intel 82579 Some: Ethernet preinstalled through downgrade Security chip STMicroelectronics ST33ZP24 Trusted Platform Module (TPM), rights in Windows 8 Pro 64-bit TCG 1.2-compliant Windows 8 Pro 64-bit Keyboard Preferred Pro USB Keyboard (USB connector), 104-key, black Preloaded applications⁵ (only some listed) Optical Wheel Mouse (USB connector), black Mouse Windows 7 models Vertical Stand Some: Vertical stand with retractable tongue for vertical orientation Rescue and Recovery[®] 240 watts with variable speed fan, autosensing, 85% PSU, Power supply Norton™ Internet Security (30 days of virus definitions) Climate Savers® Computing Bronze, 80 PLUS® Bronze qualified Adobe® Reader® Limited Warranty 3-year parts and labor, more Lenovo® services see S-TS sheet Microsoft® Office 2013 preloaded; purchase product key to activate Corel® WinDVD® (DVD±RW model(s)) Eco-Label and GREENGUARD® certified RoHS-compliant EPEAT™ Gold rating environmental Ulead® DVD MovieFactory® (DVD±RW model(s)) certifications **ENERGY STAR 5.2-compliant** Windows 8 models Norton Internet Security (30 days of virus definitions) ISV certifications See the latest list of ISV certifications at www.lenovo.com/support/ISV Norton Studio Intel AMT Intel AMT supported on model(s) with Xeon processor Microsoft Office 2013 preloaded; purchase product key to activate

Cyberlink Power2Go (DVD±RW model(s)) Cyberlink PowerProducer (DVD±RW model(s)) SECURITY Security chip (see information on left)
 Security slot (in rear for optional Kensington® Microsaver® cable;

prohibits side cover removal) Power-on and administrator password

USB port disablement (front or all/individual)

Chassis intrusion switch available on selected model(s) More compatible accessories, please see O-ROC sheet

 Boot sequence control · Boot without keyboard, mouse Serial port I/O control

ThinkStation® E31 SFF (3690) - May 2013

						2nd					Chassis		
Type-		Memory	Memory	Pre-conf	SATA	drive	Media	SATA	Graphics	1394	intrusion	Vertical	Preload
model ¹	Processor	(MHz/ECC)	DIMMs	RAID	drive(s)	bay	reader	optical	adapter(s)	adptr	switch	stand	OS ²
3690-R2U	Xeon E3-1245V2	1600MHz ECC	8GBx1	No	1x1TB 3.5" SATA	No	No	DVD±RW	Quadro 410	No	Switch	Stand	Win7 Pro64(DG)
3690-R3U	Xeon E3-1245V2	1600MHz ECC	8GBx1	No	1x1TB 3.5" SATA	No	No	DVD±RW	Quadro 410	No	Switch	Stand	Win8 Pro64
3690-R4U	Xeon E3-1280V2	1600MHz ECC	8GBx1	No	1x1TB 3.5" SATA	No	No	DVD±RW	Quadro K600	No	Switch	Stand	Win8 Pro64
3690-R5U	Xeon E3-1280V2	1600MHz ECC	8GBx1	No	1x1TB 3.5" SATA	No	No	DVD±RW	Quadro K600	No	Switch	Stand	Win7 Pro64(DG)

	that this is a Global Model indows 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit	
Processor	Intel® Xeon® E3-1245V2 processor (4C/8T, 3.4GHz, 8MB Cache),	Small Desktop
	Turbo Boost 2.0 (up to 3.8GHz), integrated Intel HD Graphics P4000, DDR3 memory controller (up to 1600MHz)	(1) Optional 1.6" high optical (2) Slim optical + 2nd disk
	Intel Xeon E3-1280V2 processor (4C/8T, 3.6GHz, 8MB Cache),	3 disk slim optical 2nd disk
Implementation	Turbo Boost 2.0 (up to 4.0GHz), DDR3 memory controller (up to 1600MHz) One LGA1155 socket	2 0000
Memory	32GB max, UDIMM, PC3-12800 1600MHz DDR3, ECC or non-ECC,	(3) 2nd disk
Additional memory	four 240-pin DIMM sockets; • Actual memory operating speed depends on processor memory	③ disk 2nd disk
disclaimers	controller speed, installed memory speed, and quantity of memory DIMMs Mixing of ECC and non-ECC memory is not supported	2 000
Graphics	Some: Intel HD Graphics in processor, uses main memory, works along with discrete graphics to support multi-display;	Bay 1: 5.25", 1.6" high, supports one of the following:
	(detailed graphics model name please see Processor section,	(1) optional 5.25", 1.6" high optical, access (2) 5.25" slim optical (access) and 3.5" 2nd disk
	connector information please see Rear ports section) Some: NVIDIA® Quadro® 410, PCle x16 adapter, 512MB,	drive bay (internal) (3) 3.5" 2nd disk drive bay, internal
	one DisplayPort™, one dual-link DVI-I, 37W Some: NVIDIA Quadro K600, PCIe x16 adapter, 1GB,	Bay 2: 3.5", 0.5" high, access, for optional media reader
	one DisplayPort, one dual-link DVI-I, 41W	(not available on slim optical models) Bay 3: 3.5", 1" high, internal, for disk drive
Media reader Optical	Media: 29-in-1 Media card reader, slim, internal USB 2.0 DVD, slim DVD, DVD±RW, slim DVD±RW, or Blu-ray, depending on model	Slot 1: Low Profile, PCIe* x16 (45w max, near CPU)
SATA drive(s)	3.5": SATA 6.0Gb/s, 7200 rpm, 3.5"	* PCIe 2.0 x16 on Core i3/Pentium/Celeron models, PCIe 3.0 x16 on Xeon/Core i5/Core i7 models
	2.5": SATA 6.0Gb/s, 10000 rpm, 2.5" SSD: Solid State Drive, SATA 6.0Gb/s, 2.5"	Slot 2: Low Profile, PCle 2.0 x1
Onboard SATA	Two SATA 6.0Gb/s connectors (red), two SATA 3.0Gb/s connectors (orange),	Slot 3: Low Profile, 32-bit PCI 2.3 Slot 4: Low Profile, 32-bit PCI 2.3
	RAID 0, 1 support via Intel C216 Chipset (RAID can work on models with 2nd drive bay only)	Raven black color; metal case
Onboard SAS	None	• 13.35"W x 15.0"D x 3.93"H • 339mm W x 381.1mm D x 99.7mm H
Chipset	Intel C216 Chipset	16.53 lb (7.5kg) max configuration
Front ports Rear ports	Two USB 2.0, microphone (3.5mm), headphone (3.5mm) Two USB 2.0, four USB 3.0 (blue), one serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in), one analog VGA DB-15 connector, one DisplayPort connector (Onbeat VCA and DisplayPort content of the property VCA and DisplayPort of the	 11-liter Toolless top cover removal Toolless disk and optical drive removal Toolless adapter retention
	(Onboard VGA and DisplayPort [™] are functional when the following processors are used: Xeon E3-12X5V2, Core i7, i5, i3, Pentium, and Celeron processors)	Recessed power button Preloaded operating system ²⁰
	PS/2 models: additional PS/2 keyboard and mouse connectors via PS/2 rear I/O cable	Some: Windows® 7 Professional 64
IEEE 1394 adptr	No onboard 1394 ports; 1394 models: additional FireWire PCle adapter, 1394a-2000,	Some: Windows 7 Professional 64 preinstalled through downgrade
	400Mbps, two 6-pin ports on rear	rights in Windows 8 Pro 64-bit
Audio Speaker	High Definition (HD) Audio, Realtek® ALC662 codec Internal speaker for business audio	Some: Windows 8 Pro 64-bit
Ethernet	One onboard gigabit ethernet, Intel 82579	Preloaded applications ⁵ (only some listed) -Windows 7 models
Security chip	STMicroelectronics ST33ZP24 Trusted Platform Module (TPM), TCG 1.2-compliant	Rescue and Recovery®
Keyboard	Preferred Pro USB Keyboard (USB connector), 104-key, black	Norton™ Internet Security (30 days of virus definitions) Adobe® Reader®
Mouse	Optical Wheel Mouse (USB connector), black	Microsoft® Office 2013 preloaded; purplesses product less to activate.
Vertical Stand Power supply	Some: Vertical stand with retractable tongue for vertical orientation 240 watts with variable speed fan, autosensing, 85% PSU,	purchase product key to activate • Corel® WinDVD® (DVD±RW model(s))
i ower supply	Climate Savers® Computing Bronze, 80 PLUS® Bronze qualified	Ulead® DVD MovieFactory® (DVD±RW model(s)) Windows 2 models
Limited Warranty	3-year parts and labor, more Lenovo® services see S-TS sheet	-Windows 8 models - Norton Internet Security (30 days of virus definitions)
Eco-Label and environmental	GREENGUARD® certified RoHS-compliant	Norton Studio Microsoft Office 2013 preloaded;
certifications	EPEAT™ Ġold rating	purchase product key to activate
ICV/ portifications	ENERGY STAR 5.2-compliant	Cyberlink Power2Go (DVD±RW model(s)) Cyberlink PowerProducer (DVD±RW model(s))
ISV certifications Intel AMT	See the latest list of ISV certifications at www.lenovo.com/support/ISV Intel AMT supported on model(s) with Xeon processor	SECURITY
		Security chip (see information on left)
		Securitý slot (în rear for optional Kensington® Microsaver® cable;
		prohibits side cover removal)
		Power-on and administrator password Boot sequence control

Power-on and administrator password
 Boot sequence control
 Boot without keyboard, mouse
 Serial port I/O control
 USB port disablement (front or all/individual)
 Chair interior with profibile profest

 Chassis intrusion switch available on selected model(s) More compatible accessories, please see O-ROC sheet

ThinkStation® E31 SFF (3691) - GMP

								2nd				Chassis	PS/2		
Type-		Memory	Memory I	Pre-conf	f	Media	SATA	Disk	Graphics	1394		intrusion	rear	Vertical	Win7
model	Processor	(MHz/ECC)	DIMMs	RAID	Disk(s)	reader	optical	bay	adapter(s)	adptr	Global	switch	I/O	stand	preload
3691-B2U	Core i3-2130	1600MHz ECC	1x4GB	No	1x500GB SATA	Media	DVD±RW	No	Intel HD 2000	No	Global	No	No	No	Pro 64
3691-B3U	Xeon E3-1225V2	1600MHz ECC	1x4GB	No	1x1TB SATA	Media	DVD±RW	No	Intel HD P4000	No	Global	No	No	No	Pro 64

• Part of the Global Models Plus (GMP) program with limited onsite service 3-year limited warranty

see 3.7mm H Irration re removal ss, for optical/2nd disk ss, for media reader al, for disk 3.16 (45w max, near CPU) Celeron models, PCle 3.0
9.7mm H rration re removal ss, for optical/2nd disk ss, for media reader al, for disk xx16 (45w max, near CPU)
9.7mm H rration re removal ss, for optical/2nd disk ss, for media reader al, for disk x x16 (45w max, near CPU)
ration re removal s, for optical/2nd disk s, for media reader al, for disk x x16 (45w max, near CPU)
ss, for optical/2nd disk ss, for media reader al, for disk x16 (45w max, near CPU)
s, for media reader al, for disk x16 (45w max, near CPU)
2.0 x1
PCI 2.3 PCI 2.3
T I(s) with Xeon processor
ating system ²⁰ s ⁵ (only some listed)
O days of virus definitions) aded; vate model(s)) (DVD±RW model(s))
ry on on left) onal able;
se or all/individual) iilable on selected model(s)
fications support/ISV
l(a s) avm(I r) s (iii fi s

ThinkStation® E31 SFF (3691) - GMP (October 2012)

								2nd			Chassis	PS/2		
Type-		Memory	Memory	Pre-con	f	Media	SATA	Disk	Graphics	1394	intrusion	rear	Vertical	Preload
model	Processor	(MHz/ECC)	DIMMs	RAID	Disk(s)	reader	optical	bay	adapter(s)	adptr Global	switch	I/O	stand	os
3601-4411	Core i3-2130	1600MHz ECC	1v//GB	No	1y500GR SATA	No	DVD+RW	Nο	Quadro 410	No Global	Switch	No	Stand	Win8 Pro64

• Part of the Global Models Plus (GMP) program with limited onsite service 3-year limited warranty

Processor	Intel® Core™ i3-2130 processor (2C/4T, 3.4GHz, 3MB Cache),	Small Desktop
Implementation	integrated Intel HD Graphics 2000, DDR3 memory controller (up to 1333MHz) One LGA1155 socket	
Memory	32GB max, UDIMM, PC3-12800 1600MHz DDR3, ECC or non-ECC, four 240-pin DIMM sockets;	③ disk optical
Additional memory disclaimers	 Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs 	• Raven black color; metal case
Graphics	Mixing of ECC and non-ECC memory is not supported Some: Intel HD Graphics in processor, uses main memory, works along with discrete graphics to support multi-display; Xeon E3-1225V2/1245V2/1275V2: Intel HD Graphics P4000 Core i7-3770: Intel HD Graphics 4000 Core i5-3450/3470/3550: Intel HD Graphics 2500 Core i3-3220/3240: Intel HD Graphics 2500 Core i3-2120/2130: Intel HD Graphics 2000 Pentium/Celeron: Intel HD Graphics (connector information please see Rear ports section)	13.35"W x 15.0"D x 3.93"H 339mm W x 381.1mm D x 99.7mm H 16.53 lb (7.5kg) max configuration 11-liter Toolless top cover removal Toolless disk and optical drive removal Toolless adapter retention Recessed power button Bay 1: 5.25", 1.6" high, access, for optical/2nd disk
Madia wasalaw	Some: NVIDIA® Quadro® 410, PCIe x16 adapter, 512MB, one DisplayPort™, one dual-link DVI-I, 38W	Bay 2: 3.5", 0.5" high, access, for media reader Bay 3: 3.5", 1" high, internal, for disk
Media reader Optical Disk(s) Onboard SATA	Media: 29-in-1 Media card reader, slim, internal USB 2.0 Super Multi-Burner DL DVD±RW SATA 1.5Gb/s Drive 250GB/500GB/1TB/2TB/3TB SATA: SATA 6.0Gb/s, 7200 rpm, 3.5" 150GB/300GB/600GB SATA: SATA 6.0Gb/s, 10000 rpm, 2.5" 128GB/180GB/256GB SSD: Solid State Drive, SATA 6.0Gb/s, 2.5" Two SATA 6.0Gb/s connectors (red), two SATA 3.0Gb/s connectors (orange),	Slot 1: Low Profile, PCle* x16 (45w max, near CPU) * PCle 2.0 x16 on Core i3/Pentium/Celeron models, PCle 3.0 x16 on Xeon models Slot 2: Low Profile, PCle 2.0 x1 Slot 3: Low Profile, 32-bit PCl 2.3 Slot 4: Low Profile, 32-bit PCl 2.3
Oh OAO	RAID 0, 1 support via Intel C216 Chipset (RAID only work on models with 2nd disk bay)	Intel AMT
Onboard SAS	None	Intel AMT supported on model(s) with Xeon processor
Chipset Front ports	Intel C216 Chipset Two USB 2.0, microphone (3.5mm), headphone (3.5mm)	Preloaded operating system ²⁰
Rear ports	Two USB 2.0, four USB 3.0 (blue), one serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in), one analog VGA DB-15 connector, one DisplayPort connector (Onboard VGA and DisplayPort are functional when the following processors are used: Xeon E3-1225V2/1245V2/1275V2, Core i3-2120/2130, Pentium, and Celeron processors) PS/2 models: additional PS/2 keyboard and mouse connectors via PS/2 rear I/O cable	Some: Windows 8 Pro 64-bit Preloaded applications ⁵ (only some listed) -Windows 7 models • Rescue and Recovery [®] • Norton™ Internet Security (30 days of virus definitions) • Adobe® Reader [®] • Microsoft [®] Office 2013 preloaded;
IEEE 1394 adptr	No onboard 1394 ports; 1394 models: additional FireWire PCIe adapter, 1394a-2000, 400Mbps, two 6-pin ports on rear	purchase product key to activate Corel® WinDVD® (DVD±RW model(s)) Ulead® DVD MovieFactory® (DVD±RW model(s))
Audio Speaker Ethernet Security chip	High Definition (HD) Audio, Realtek® ALC662 codec Internal speaker for business audio One onboard gigabit ethernet, Intel 82579 STMicroelectronics ST33ZP24 Trusted Platform Module (TPM), TCG 1.2-compliant	-Windows 8 models Intel AppUp® Evernote® Norton Internet Security (30 days of virus definitions) Norton Studio
Keyboard Mouse Vertical Stand Power supply	Preferred Pro USB Keyboard (USB connector), 104-key, black Optical Wheel Mouse (USB connector), black Some: Vertical stand with retractable tongue for vertical orientation 240 watts with variable speed fan, autosensing, 85% PSU, Climate Savers® Computing Bronze, 80 PLUS® Bronze qualified	Skype TM Microsoft Office 2013 preloaded; purchase product key to activate Cyberlink Power2Go (DVD±RW model(s)) Cyberlink PowerProducer (DVD±RW model(s))
Limited Warranty	3-year parts and labor, more Lenovo® services see S-TS sheet	SECURITY
Eco-Label and environmental certifications	GREENGUARD® certified RoHS-compliant EPEAT™ Gold rating ENERGY STAR 5.2-compliant	Security chip (see information on left) Security slot (in rear for optional Kensington® Microsaver® cable; prohibits side cover removal)
ISV certifications	See the latest list of ISV certifications at www.lenovo.com/support/ISV	Power-on password Administrator password Boot sequence control Boot without keyboard, mouse Serial port I/O control USB port disablement (front or all/individual) Chassis intrusion switch available on selected model(s). More compatible accessories, please see O-ROC sheet

ThinkStation® E31 SFF (3691) - GMP (February 2013)

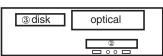
								2nd				Chassis	PS/2	
Type-		Memory	Memory	Pre-conf		Media	SATA	Disk	Graphics	1394		intrusion	rear	Preload
model	Processor	(MHz/ECC)	DIMMs	RAID	Hard drive(s)	reader	optical	bay	adapter(s)	adptr	Global	switch	I/O	os
3691-C4U	Xeon E3-1270V2	1600MHz Non-ECC	2x4GB	No	1x180GB SSD	Media	DVD±RW	No	Quadro 600	No	Global	Switch	No	Win7 Pro64
3691-C5U	Xeon E3-1270V2	1600MHz Non-ECC	2x4GB	No	1x180GB SSD	Media	$DVD {\pm} RW$	No	Quadro 410	No	Global	Switch	No	Win7 Pro64(DG)*

• Part of the Global Models Plus (GMP) program with limited onsite service 3-year limited warranty

^{*} Win7 Pro64(DG) = Windows 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit

* Win7 Pro64(DG) = Wind	dows 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit	
Processor	Intel® Xeon® E3-1270V2 processor (4C/8T, 3.5GHz, 8MB Cache), Turbo Boost 2.0 (up to 3.9GHz), DDR3 memory controller (up to 1600MHz)	1
Implementation	One LGA1155 socket	↓ [
Memory	32GB max, UDIMM, PC3-12800 1600MHz DDR3, ECC or non-ECC, four 240-pin DIMM sockets;	
Additional memory disclaimers	 Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs 	H
	Mixing of ECC and non-ECC memory is not supported	<u></u> •
Graphics	Some: NVIDIA® Quadro® 410, PCIe x16 adapter, 512MB, one DisplayPort™, one dual-link DVI-I, 38W	;
	Some: NVIDIA Quadro 600, PCIe x16 adapter, 1GB, one DisplayPort, one dual-link DVI-I, 40W	:
Media reader	Media: 29-in-1 Media card reader, slim, internal USB 2.0	1
Optical	Super Multi-Burner DL DVD±RW SATA 1.5Gb/s Drive	١.
Disk(s)	250GB/500GB/1TB/2TB/3TB SATA: SATA 6.0Gb/s, 7200 rpm, 3.5" 150GB/300GB/600GB SATA: SATA 6.0Gb/s, 10000 rpm, 2.5" 128GB/180GB/256GB SSD: Solid State Drive, SATA 6.0Gb/s, 2.5"	l
Onboard SATA	Two SATA 6.0Gb/s connectors (red), two SATA 3.0Gb/s connectors (orange), RAID 0, 1 support via Intel C216 Chipset (RAID only work on models with 2nd	1
Onboard SAS	disk bay) None	
Chipset	Intel C216 Chipset] ,
Front ports	Two USB 2.0, microphone (3.5mm), headphone (3.5mm)] ?
Rear ports	Two USB 2.0, four USB 3.0 (blue), one serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in), one analog VGA DB-15 connector, one DisplayPort connector	-
	(Onboard VGA and DisplayPort are functional when the following processors are used: Xeon E3-1225V2/1245V2/1275V2, Core i3-2120/2130, Pentium, and	l
	Celeron processors) PS/2 models: additional PS/2 keyboard and mouse connectors via PS/2 rear I/O cable	3
IEEE 1394 adptr	No onboard 1394 ports;	`
	1394 models: additional FireWire PCIe adapter, 1394a-2000, 400Mbps, two 6-pin ports on rear	1
Audio	High Definition (HD) Audio, Realtek® ALC662 codec	`
Speaker Ethernet	Internal speaker for business audio One onboard gigabit ethernet, Intel 82579	-
Security chip	STMicroelectronics ST33ZP24 Trusted Platform Module (TPM), TCG 1.2-compliant	
Keyboard	Preferred Pro USB Keyboard (USB connector), 104-key, black	┤:
Mouse	Optical Wheel Mouse (USB connector), black	-
Vertical Stand	Vertical stand with retractable tongue for vertical orientation	•
Power supply	240 watts with variable speed fan, autosensing, 85% PSU, Climate Savers® Computing Bronze, 80 PLUS® Bronze qualified	-
Limited Warranty	3-year parts and labor, more Lenovo® services see S-TS sheet	-
Eco-Label and	GREENGUARD® certified	•
environmental	RoHS-compliant	
certifications	EPEAT™ Gold rating ENERGY STAR 5.2-compliant	•
ISV certifications	See the latest list of ISV certifications at www.lenovo.com/support/ISV	┤.
		:

Small Desktop



- · Raven black color; metal case
- 13.35"W x 15.0"D x 3.93"H 339mm W x 381.1mm D x 99.7mm H
- 16.53 lb (7.5kg) max configuration
- 11-liter
- Toolless top cover removal
- Toolless disk and optical drive removal
- Toolless adapter retention
- Recessed power button

Bay 1: 5.25", 1.6" high, access, Bay 2: 3.5", 0.5" high, access, Bay 3: 3.5", 1" high, internal, for optical/2nd disk for media reader for disk

Slot 1: Low Profile, PCIe* x16 (45w max, near CPU) * PCle 2.0 x16 on Core i3/Pentium/Celeron models, PCle 3.0

x16 on Xeon models Slot 2: Low Profile, PCIe 2.0 x1 32-bit PCI 2.3 Slot 3: Low Profile, 32-bit PCI 2.3 Slot 4: Low Profile,

Intel AMT

Intel AMT supported on model(s) with Xeon processor

Preloaded operating system²⁰

Windows® 7 Professional 64 Some: Windows 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit

Windows 8 Pro 64-bit

Preloaded applications⁵ (only some listed)

-Windows 7 models

- Rescue and Recovery®
- Norton[™] Internet Security (30 days of virus definitions)
- Adobe® Reader®
- Microsoft® Office 2013 preloaded; purchase product key to activate
 Corel® WinDVD® (DVD±RW model(s))
- Ulead® DVD MovieFactory® (DVD±RW model(s))

-Windows 8 models

- Intel AppUp[®]
- 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))

SECURITY

- Security chip (see information on left)
- 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 Serial port I/O control
- USB port disablement (front or all/individual)
- Chassis intrusion switch available on selected model(s)

More compatible accessories, please see O-ROC sheet

ThinkStation® E31 SFF (3691) - GMP (March 2013)

						2nd					Chassis		
Type-		Memory	Memory	Pre-conf	SATA	drive	Media	SATA	Graphics	1394	intrusion	Vertical	Preload
model ¹	Processor	(MHz/ECC)	DIMMs	RAID	drive(s)	bay	reader	optical	adapter(s)	adptr	switch	stand	OS ²
3691-C6U	Core i3-3220	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5"	No	Media	DVD±RW	Intel HD 2500	No	Switch	Stand	Win7 Pro64(DG)
3691-C7U	Core i3-3220	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5"	No	Media	DVD±RW	Intel HD 2500	No	Switch	Stand	Win8 Pro64
3691-C8U	Core i3-3240	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5"	No	Media	DVD±RW	Intel HD 2500	No	Switch	Stand	Win8 Pro64
3691-C9U	Core i3-3240	1600MHz Non-ECC	1x4GB	No	1x500GB 3.5"	No	Media	DVD±RW	Intel HD 2500	No	Switch	Stand	Win7 Pro64(DG)
3691-CAU	Xeon E3-1225V2	1600MHz Non-ECC	1x4GB	No	1x1TB 3.5"	No	Media	DVD±RW	Intel HD P4000	No	Switch	Stand	Win7 Pro64(DG)
3691-CBU	Xeon E3-1225V2	1600MHz Non-ECC	1x4GB	No	1x1TB 3.5"	No	Media	DVD±RW	Intel HD P4000	No	Switch	Stand	Win8 Pro64

1 Model in italics shows that this is a Global Model
2 Min 7 Pro6A(DC) - Windows 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit

2 Win7 Pro64(DG) = Wi	ndows 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit	T
Processor	Intel® Core™ i3-3220 processor (2C/4T, 3.3GHz, 3MB Cache), integrated Intel HD Graphics 2500, DDR3 memory controller (up to 1600MHz) Intel Core i3-3240 processor (2C/4T, 3.4GHz, 3MB Cache), integrated Intel HD Graphics 2500, DDR3 memory controller (up to 1600MHz) Intel Xeon® E3-1225V2 processor (4C/4T, 3.2GHz, 8MB Cache), Turbo Boost 2.0 (up to 3.6GHz), integrated Intel HD Graphics P4000, DDR3 memory controller (up to 1600MHz)	Small Desktop 3 disk optical
Implementation	One LGA1155 socket	Raven black color; metal case
Memory	32GB max, UDIMM, PC3-12800 1600MHz DDR3, ECC or non-ECC, four 240-pin DIMM sockets;	• 13.35"W x 15.0"D x 3.93"H • 339mm W x 381.1mm D x 99.7mm H
disclaimers	 Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs Mixing of ECC and non-ECC memory is not supported 	16.53 lb (7.5kg) max configuration 11-liter Toolless top cover removal Toolless disk and optical drive removal
Graphics	Intel HD Graphics in processor, uses main memory, works along with discrete graphics to support multi-display; (detailed graphics model name please see Processor section, connector information please see Rear ports section)	Toolless adapter retention Recessed power button Bay 1: 5.25", 1.6" high, access, for optical/2nd disk Bay 2: 3.5", 0.5" high, access, for media reader
Media reader Optical	Media: 29-in-1 Media card reader, slim, internal USB 2.0 DVD, slim DVD, DVD±RW, slim DVD±RW, or Blu-ray, depending on model	Bay 3: 3.5", 1" high, internal, for disk
SATA drive(s)	3.5": SATA 6.0Gb/s, 7200 rpm, 3.5" 2.5": SATA 6.0Gb/s, 10000 rpm, 2.5" SSD: Solid State Drive, SATA 6.0Gb/s, 2.5"	Slot 1: Low Profile, PCIe* x16 (45w max, near CPU) * PCIe 2.0 x16 on Core i3/Pentium/Celeron models, PCIe 3.0 x16 on Xeon models
Onboard SATA	Two SATA 6.0Gb/s connectors (red), two SATA 3.0Gb/s connectors (orange), RAID 0, 1 support via Intel C216 Chipset (RAID can work on models with 2nd drive bay only)	Slot 2: Low Profile, PCIe 2.0 x1 Slot 3: Low Profile, 32-bit PCI 2.3 Slot 4: Low Profile, 32-bit PCI 2.3
Onboard SAS	None	Intel AMT
Chipset	Intel C216 Chipset	Intel AMT supported on model(s) with Xeon processor
Front ports Rear ports	Two USB 2.0, microphone (3.5mm), headphone (3.5mm) Two USB 2.0, four USB 3.0 (blue), one serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in), one analog VGA DB-15 connector, one DisplayPort connector (Onboard VGA and DisplayPort™ are functional when the following processors are used: Xeon E3-12X5V2, Core i7, i5, i3, Pentium, and Celeron processors)	Preloaded operating system ²⁰ Some: Windows® 7 Professional 64 Some: Windows 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit
IEEE 1394 adptr	No onboard 1394 ports; 1394 models: additional FireWire PCIe adapter, 1394a-2000,	Some: Windows 8 Pro 64-bit Preloaded applications ⁵ (only some listed)
Audio Speaker Ethernet Security chip	400Mbps, two 6-pin ports on rear High Definition (HD) Audio, Realtek® ALC662 codec Internal speaker for business audio One onboard gigabit ethernet, Intel 82579 STMicroelectronics ST33ZP24 Trusted Platform Module (TPM), TCG 1.2-compliant	-Windows 7 models • Rescue and Recovery® • Norton™ Internet Security (30 days of virus definitions) • Adobe® Reader® • Microsoft® Office 2013 preloaded; purchase product key to activate
Keyboard Mouse Vertical Stand Power supply	Preferred Pro USB Keyboard (USB connector), 104-key, black Optical Wheel Mouse (USB connector), black Some: Vertical stand with retractable tongue for vertical orientation 240 watts with variable speed fan, autosensing, 85% PSU, Climate Savers® Computing Bronze, 80 PLUS® Bronze qualified	Corel® WinDVD® (DVD±RW model(s)) Ulead® DVD MovieFactory® (DVD±RW model(s)) -Windows 8 models Evernote® Norton Internet Security (30 days of virus definitions)
Limited Marranty	3-year parts and labor, more Lenovo® services see S-TS sheet	Norton Studio Studio
Eco-Label and environmental certifications	GREENGUARD® certified RoHS-compliant EPEATTM Gold rating ENERGY STAR 5.2-compliant	Skype™ Microsoft Office 2013 preloaded; purchase product key to activate Cyberlink Power2Go (DVD±RW model(s)) Cyberlink PowerProducer (DVD±RW model(s))
ISV certifications	See the latest list of ISV certifications at www.lenovo.com/support/ISV	SECURITY
		Security chip (see information on left) 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 Serial port I/O control USB port disablement (front or all/individual) Chassis intrusion switch available on selected model(s)

More compatible accessories, please see O-ROC sheet

ThinkStation $^{\circ}$ E31 SFF (3688) - June 5, 2012

								2nd				Chassis	PS/2		
Type-		Memory	Memory	Pre-con	f	Media	SATA	Disk	Graphics	1394		intrusion	rear	Vertical	Win7
model	Processor	(MHz/ECC)	DIMMs	RAID	Disk(s)	reader	optical	bav	adapter(s)	adntr	Global	switch	I/O	stand	preload
model	110063301	(IVII 12/ECC)	DIMINIS	וואוט	Disk(s)	reader	Optical	Day	adapter(3)	uupti	Giobai	SWILCII	1/0	Staria	prerouu

Processor	Intel [®] Core [™] i7-3770 processor (4C/8T, 3.4GHz, 8MB Cache), integrated Intel HD Graphics 4000,	Small Desktop
	Turbo Boost 2.0 (up to 3.9GHz), DDR3 memory controller (up to 1600MHz)	③ disk optical
Implementation	One LGA1155 socket	
Memory	32GB max, UDIMM, PC3-12800 1600MHz DDR3, ECC or non-ECC, four 240-pin DIMM sockets;	2 0000
disclaimers	 Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs Mixing of ECC and non-ECC memory is not supported 	Raven black color; metal case 13.35"W x 15.0"D x 3.93"H 339mm W x 381.1mm D x 99.7mm H
Graphics	NVIDIA® Quadro® 600, PCIe x16 adapter, 1GB, one DisplayPort™, one dual-link DVI-I, 40W	16.53 lb (7.5kg) max configuration 11-liter
Media reader	Media: 29-in-1 Media card reader, slim, internal USB 2.0	Toolless top cover removal Toolless disk and optical drive removal
Optical	Super Multi-Burner DL DVD±RW SATA 1.5Gb/s Drive	Toolless adapter retention
Disk(s)	250GB/500GB/1TB/2TB/3TB SATA: SATA 6.0Gb/s, 7200 rpm, 3.5"	Recessed power button
	150GB/300GB/600GB SATA: SATA 6.0Gb/s, 10000 rpm, 2.5" 128GB/180GB/256GB SSD: Solid State Drive, SATA 6.0Gb/s, 2.5"	·
Onboard SATA	Two SATA 6.0Gb/s connectors (red), two SATA 3.0Gb/s connectors (orange),	
Oliboard Ortin	RAID 0, 1 support via Intel C216 Chipset (RAID only work on models with 2nd	Bay 1: 5.25", 1.6" high, access, for optical/2nd disk
	disk bay)	Bay 2: 3.5", 0.5" high, access, for media reader
Onboard SAS	None	Bay 3: 3.5", 1" high, internal, for disk
Chipset	Intel C216 Chipset	Slot 1: Low Profile, PCIe* x16 (45w max, near CPU)
Front ports Rear ports	Two USB 2.0, microphone (3.5mm), headphone (3.5mm) Two USB 2.0, four USB 3.0 (blue), one serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in), one analog VGA DB-15	* PCIe 2.0 x16 on Core i3/Pentium/Celeron models, PCIe 3.0 x16 on Xeon/Core i5/Core i7 models
	connector, one DisplayPort connector	Slot 2: Low Profile, PCle 2.0 x1
	(Onboard VGA and DisplayPort are functional when the following processors are used: Xeon E3-1225V2/1245V2/1275V2, Core i7-3770,	Slot 3: Low Profile, 32-bit PCI 2.3
	Core i5-3450/3550, Core i3-2120/2130, Pentium, and Celeron processors)	Slot 4: Low Profile, 32-bit PCI 2.3
	PS/2 models: additional PS/2 keyboard and mouse connectors	
	via PS/2 rear I/O cable	
IEEE 1394 adptr	No onboard 1394 ports;	Intel AMT
	1394 models: additional FireWire PCIe adapter, 1394a-2000, 400Mbps, two 6-pin ports on rear	
		I INTEL AIM I SUNDORTED ON MODEUS) WITH XEON DROCESSOR
Audio	High Definition (HD) Audio, Realtek® ALC662 codec	Intel AMT supported on model(s) with Xeon processor
Audio Speaker	High Definition (HD) Audio, Realtek® ALC662 codec Internal speaker for business audio	Preloaded operating system ²⁰
Speaker Ethernet	High Definition (HD) Audio, Realtek® ALC662 codec Internal speaker for business audio One onboard gigabit ethernet, Intel 82579	• Windows® 7 Professional 64
Speaker	High Definition (HD) Audio, Realtek® ALC662 codec Internal speaker for business audio One onboard gigabit ethernet, Intel 82579 STMicroelectronics ST33ZP24 Trusted Platform Module (TPM),	Preloaded operating system ²⁰ Windows® 7 Professional 64 Preloaded applications ⁵ (only some listed)
Speaker Ethernet Security chip	High Definition (HD) Audio, Realtek® ALC662 codec Internal speaker for business audio One onboard gigabit ethernet, Intel 82579 STMicroelectronics ST33ZP24 Trusted Platform Module (TPM), TCG 1.2-compliant	Preloaded operating system ²⁰ Windows® 7 Professional 64 Preloaded applications ⁵ (only some listed) Rescue and Recovery®
Speaker Ethernet Security chip Keyboard	High Definition (HD) Audio, Realtek® ALC662 codec Internal speaker for business audio One onboard gigabit ethernet, Intel 82579 STMicroelectronics ST33ZP24 Trusted Platform Module (TPM), TCG 1.2-compliant Preferred Pro USB Keyboard (USB connector), 104-key, black	Preloaded operating system ²⁰ Windows® 7 Professional 64 Preloaded applications ⁵ (only some listed) Rescue and Recovery® Norton® Internet Security (30 days of virus definitions)
Speaker Ethernet Security chip Keyboard Mouse	High Definition (HD) Audio, Realtek® ALC662 codec Internal speaker for business audio One onboard gigabit ethernet, Intel 82579 STMicroelectronics ST33ZP24 Trusted Platform Module (TPM), TCG 1.2-compliant Preferred Pro USB Keyboard (USB connector), 104-key, black Optical Wheel Mouse (USB connector), black	Preloaded operating system ²⁰ Windows® 7 Professional 64 Preloaded applications ⁵ (only some listed) Rescue and Recovery®
Speaker Ethernet Security chip Keyboard Mouse Vertical Stand	High Definition (HD) Audio, Realtek® ALC662 codec Internal speaker for business audio One onboard gigabit ethernet, Intel 82579 STMicroelectronics ST33ZP24 Trusted Platform Module (TPM), TCG 1.2-compliant Preferred Pro USB Keyboard (USB connector), 104-key, black Optical Wheel Mouse (USB connector), black Some: Vertical stand with retractable tongue for vertical orientation	Preloaded operating system ²⁰ Windows® 7 Professional 64 Preloaded applications® (only some listed) Rescue and Recovery® Norton® Internet Security (30 days of virus definitions) Adobe® Reader® Microsoft® Office 2013 preloaded; purchase product key to activate
Speaker Ethernet Security chip Keyboard Mouse	High Definition (HD) Audio, Realtek® ALC662 codec Internal speaker for business audio One onboard gigabit ethernet, Intel 82579 STMicroelectronics ST33ZP24 Trusted Platform Module (TPM), TCG 1.2-compliant Preferred Pro USB Keyboard (USB connector), 104-key, black Optical Wheel Mouse (USB connector), black Some: Vertical stand with retractable tongue for vertical orientation 240 watts with variable speed fan, autosensing, 85% PSU,	Preloaded operating system ²⁰ • Windows® 7 Professional 64 Preloaded applications ⁵ (only some listed) • Rescue and Recovery® • Norton® Internet Security (30 days of virus definitions) • Adobe® Reader® • Microsoft® Office 2013 preloaded; purchase product key to activate • Corel® WinDVD® (DVD±RW model(s))
Speaker Ethernet Security chip Keyboard Mouse Vertical Stand Power supply	High Definition (HD) Audio, Realtek® ALC662 codec Internal speaker for business audio One onboard gigabit ethernet, Intel 82579 STMicroelectronics ST33ZP24 Trusted Platform Module (TPM), TCG 1.2-compliant Preferred Pro USB Keyboard (USB connector), 104-key, black Optical Wheel Mouse (USB connector), black Some: Vertical stand with retractable tongue for vertical orientation 240 watts with variable speed fan, autosensing, 85% PSU, Climate Savers® Computing Bronze, 80 PLUS® Bronze qualified	Preloaded operating system ²⁰ • Windows® 7 Professional 64 Preloaded applications ⁵ (only some listed) • Rescue and Recovery® • Norton® Internet Security (30 days of virus definitions) • Adobe® Reader® • Microsoft® Office 2013 preloaded; purchase product key to activate • Corel® WinDVD® (DVD±RW model(s)) • Ulead® DVD MovieFactory® (DVD±RW model(s))
Speaker Ethernet Security chip Keyboard Mouse Vertical Stand	High Definition (HD) Audio, Realtek® ALC662 codec Internal speaker for business audio One onboard gigabit ethernet, Intel 82579 STMicroelectronics ST33ZP24 Trusted Platform Module (TPM), TCG 1.2-compliant Preferred Pro USB Keyboard (USB connector), 104-key, black Optical Wheel Mouse (USB connector), black Some: Vertical stand with retractable tongue for vertical orientation 240 watts with variable speed fan, autosensing, 85% PSU,	Preloaded operating system ²⁰ • Windows® 7 Professional 64 Preloaded applications ⁵ (only some listed) • Rescue and Recovery® • Norton® Internet Security (30 days of virus definitions) • Adobe® Reader® • Microsoft® Office 2013 preloaded; purchase product key to activate • Corel® WinDVD® (DVD±RW model(s)) • Ulead® DVD MovieFactory® (DVD±RW model(s)) SECURITY
Speaker Ethernet Security chip Keyboard Mouse Vertical Stand Power supply	High Definition (HD) Audio, Realtek® ALC662 codec Internal speaker for business audio One onboard gigabit ethernet, Intel 82579 STMicroelectronics ST33ZP24 Trusted Platform Module (TPM), TCG 1.2-compliant Preferred Pro USB Keyboard (USB connector), 104-key, black Optical Wheel Mouse (USB connector), black Some: Vertical stand with retractable tongue for vertical orientation 240 watts with variable speed fan, autosensing, 85% PSU, Climate Savers® Computing Bronze, 80 PLUS® Bronze qualified	Preloaded operating system ²⁰ • Windows® 7 Professional 64 Preloaded applications ⁵ (only some listed) • Rescue and Recovery® • Norton® Internet Security (30 days of virus definitions) • Adobe® Reader® • Microsoft® Office 2013 preloaded; purchase product key to activate • Corel® WinDVD® (DVD±RW model(s)) • Ulead® DVD MovieFactory® (DVD±RW model(s)) SECURITY • Security chip (see information on left)
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ThinkStation® E31 Tower Accessories

Partial list of accessories supported on ThinkStation E	31 Tower	
•••	71 10WG1	
Memory ⁵³ 2GB PC3-12800 DDR3-1600 non-ECC UDIMM ⁵⁴	0A65728	
4GB PC3-12800 DDR3-1600 non-ECC UDIMM	0A65729	
8GB PC3-12800 DDR3-1600 non-ECC UDIMM	0A65730	
2GB PC3-12800 DDR3-1600 ECC UDIMM	0B47376	
4GB PC3-12800 DDR3-1600 ECC UDIMM	0B47377	
8GB PC3-12800 DDR3-1600 ECC UDIMM	0B47378	
2GB PC3-10600 DDR3-1333 ECC UDIMM	43R2033	
4GB PC3-10600 DDR3-1333 ECC UDIMM	57Y4138	
8GB PC3-10600 DDR3-1333 ECC UDIMM	0A65718	
More information on memory and processor configuration	operation and	
limitation, please visit:		
www.lenovo.com/support/thinkstationaccessories		
Optical		
DVD-ROM DL SATA1.5Gb/s 16X-48X Max ⁴	41N5618	
Lenovo® Super Multi-Burner SATA Drive	0A65618	
Blu-ray™ Burner SATA1.5Gb/s		
Biu-ray Burrier SAIAT.3Gb/S	45K1675	
Storage and removable storage		
500GB SATA 3.0Gb/s Disk (7200 rpm)	43R1990	
1TB SATA 3.0Gb/s Disk (7200 rpm)	45J7918	
ThinkStation 180GB Solid State Drive	0B47308	
USB 2.0 Portable 500GB Hard Disk	45K1690	
Keyboard	7005000	
Preferred Pro USB Keyboard	73P5220	
Enhanced Performance USB Keyboard	73P2620	
Lenovo USB Fingerprint Keyboard	73P4730	
Lenovo USB Smartcard Keyboard	51J0155	
Ultraslim Plus Wireless Keyboard and Mouse ⁵²	0A34032	
More information at www.lenovo.com/support/keyboard	<u> </u>	
Mouse		
Lenovo Optical Mouse (USB)	06P4069	
Lenovo ScrollPoint Mouse (USB, Optical)	31P7405	
Lenovo Laser Mouse (USB)	41U3074	
Lenovo Wireless Laser Mouse ⁵²	0A36188	
More information at www.lenovo.com/support/mice	07100100	
Monitors - ThinkVision®		
L1711p 17" (VGA, DVI-D)	5047HB2	
LT1952p Wide 19" (VGA, DP, DVI-D) ⁶⁹	2448MB6	
L2250p Wide 22" (VGA, DVI-D)	2572HB6	
L2251x Wide 22" (VGA, DP)	2578HB6	
LT2252p Wide 22" (VGA, DP, DVI-D)69	2572MB6	
LT2452p Wide 24" (VGA, DP, DVI-D)69	4420MB2	
More information at www.lenovo.com/support/monitors		
Monitor accessories ⁴⁶		
Kensington® MicroSaver® Cable Lock	73P2582	
Kensington Twin Head Cable Lock	45K1620	
More information at www.lenovo.com/support/monitora		
Graphics DisplayPort™ to Single-link DVI-D Cable⁵⁰	45J7915	
DisplayPort to DisplayPort Monitor Cable ⁵⁰ NVIDIA® NVS™ 300 512MB DMS59 ⁶⁵	0A36537	
	0A36528	46.0
NVIDIA NVS 310 512MB	0B47074	46 Compatible on selected Lenovo and ThinkVision monitors.
NVIDIA NVS 510 2GB Graphics Card by Lenovo	0B47077	50 Attaches to selected DisplayPort graphics cards.
NVIDIA Quadro 1GB 600	0A36183	⁵² Wireless via 2.4GHz technology using a micro-size USB receiver.
NVIDIA Quadro 1GB 2000	57Y4479	⁵⁴ Actual memory operating speed depend on processor memory controller speed, installed memory speed, and quantity of memory
More information at www.lenovo.com/support/graphicca	irds	controller speed, installed memory speed, and quantity of memory DIMMs.
Security		65 Contains DMS59 to dual-DVI cable and DMS59 to dual-VGA
Kensington MicroSaver Cable Lock	73P2582	cable.
Kensington Twin Head Cable Lock	45K1620	69 DisplayPort cable is not included; use optional
Lenovo Security Cable Lock	57Y4303	DisplayPort to DisplayPort Monitor Cable (0A36537).
USB Gemplus GemPC Smart Card Reader	41N3040	For more information on accessories:
•		www.lenovo.com/accessories
		Purchase Lenovo accessories
		www.lenovo.com/support/accessories Product specifications on Lenovo Support
		www.lenovo.com/accessoriesguide Option Compatibility Matrix (OCM) and accessory brochures
		www.lenovoquickpick.com
		An Options Compatibility Configurator for Lenovo systems

ThinkStation® E31 SFF Accessories

Partial list of accessories supported on ThinkStation E31	SFF	
Memory ⁵³		1
2GB PC3-12800 DDR3-1600 non-ECC UDIMM ⁵⁴	0A65728	
4GB PC3-12800 DDR3-1600 non-ECC UDIMM	0A65729	
8GB PC3-12800 DDR3-1600 non-ECC UDIMM	0A65730	
2GB PC3-12800 DDR3-1600 ECC UDIMM	0B47376	
4GB PC3-12800 DDR3-1600 ECC UDIMM	0B47377	
8GB PC3-12800 DDR3-1600 ECC UDIMM	0B47378	
2GB PC3-10600 DDR3-1333 ECC UDIMM	43R2033	
4GB PC3-10600 DDR3-1333 ECC UDIMM	57Y4138	
8GB PC3-10600 DDR3-1333 ECC UDIMM More information on memory and processor configuration, of	0A65718	
limitation, please visit:	pperation and	
www.lenovo.com/support/thinkstationaccessories		
Optical		
DVD-ROM DL SATA1.5Gb/s 16X-48X Max ⁴	41N5618	
Lenovo® Super Multi-Burner SATA Drive	0A65618	
Blu-ray™ Burner SATA1.5Gb/s	45K1675	
Storage and removable storage		
Lenovo 500GB 7200 rpm Serial ATA Hard Drive	43R1990	
Lenovo 1TB 7200 rpm Serial ATA Hard Drive	45J7918	
ThinkStation 180GB Solid State Drive	0B47308	
Keyboard		
Preferred Pro USB Keyboard	73P5220	
Enhanced Performance USB Keyboard	73P2620	
Lenovo USB Fingerprint Keyboard	73P4730	
Lenovo USB Smartcard Keyboard	51J0155	
Ultraslim Plus Wireless Keyboard and Mouse ⁵²	0A34032	
More information at www.lenovo.com/support/keyboards		
Mouse		
Lenovo Optical Mouse (USB)	06P4069	
Lenovo ScrollPoint Mouse (USB, Optical)	31P7405	
Lenovo Laser Mouse (USB)	41U3074	
Lenovo Wireless Laser Mouse ⁵² More information at www.lenovo.com/support/mice	0A36188	
Monitors - ThinkVision®	50.47LID0	
L1711p 17" (VGA, DVI-D)	5047HB2	
LT1952p Wide 19" (VGA, DP, DVI-D) ⁶⁹ L2250p Wide 22" (VGA, DVI-D)	2448MB6 2572HB6	
L2251x Wide 22" (VGA, DV)	257211B6 2578HB6	
LT2252p Wide 22" (VGA, DP, DVI-D) ⁶⁹	2572MB6	
LT2452p Wide 24" (VGA, DP, DVI-D) ⁶⁹	4420MB2	
More information at www.lenovo.com/support/monitors		
Monitor accessories ⁴⁶		1
Kensington® MicroSaver® Cable Lock	73P2582	
Kensington Twin Head Cable Lock	45K1620	
More information at www.lenovo.com/support/monitorac	cessories	
Graphics		
DisplayPort™ to Single-link DVI-D Cable ⁵⁰	45J7915	
DisplayPort to DisplayPort Monitor Cable ⁵⁰	0A36537	
NVIDIA® NVS™ 310 512MB	0B47074	
NVIDIA NVS 510 2GB Graphics Card by Lenovo	0B47077	400
NVIDIA Quadro 1GB 600 More information at www.lenovo.com/support/graphiccare	0A36183	 46 Compatible on selected Lenovo and ThinkVision monitors. 50 Attaches to selected DisplayPort graphics cards.
Security	u-0	Attaches to selected displayPort graphics cards. Selected displayPort graphics cards. Selected displayPort graphics cards. Selected displayPort graphics cards.
Kensington MicroSaver Cable Lock	73P2582	
Kensington Twin Head Cable Lock	45K1620	⁵⁴ Actual memory operating speed depend on processor memory controller speed, installed memory speed, and quantity of memory
Lenovo Security Cable Lock	57Y4303	DIMMs. 65 Contains DMS59 to dual-DVI cable and DMS59 to dual-VGA
USB Gemplus GemPC Smart Card Reader	41N3040	cable.
		69 DisplayPort cable is not included; use optional
		DisplayPort to DisplayPort Monitor Cable (0A36537).
		For more information on accessories:
		www.lenovo.com/accessories
		Purchase Lenovo accessories
		www.lenovo.com/support/accessories
		Product specifications on Lenovo Support
		www.lenovo.com/accessoriesguide Option Compatibility Matrix (OCM) and accessory brochures
		The constitution of the co

www.lenovoquickpick.com An Options Compatibility Configurator for Lenovo systems

ThinkStation



Lenovo ThinkStation C30



Lenovo ThinkStation C30



Lenovo ThinkStation C30



Lenovo ThinkStation C30



Lenovo ThinkStation C30



Lenovo ThinkStation C30

ThinkStation® C30 (1097) - TopSeller

Type- model	Processor(s)	Memory (MHz/type)	Memory DIMMs		Onboard SATA/SAS P -SCU	re-conf RAID	Hard drive(s)	Media reader	SATA optical	Graphics adapter(s)	1394 adptr	Global	Chassis intrusion switch	Win7 preload
1097-29U	1xE5-2603	1333MHz UDIMM	1x4GB	No	SATA	No	1x500GB 3.5" SATA	No	DVD±RW	1xNVS 300	No	No	Switch	Pro 64
1097-31U	1xE5-2603	1333MHz UDIMM	1x4GB	No	SATA	No	1x500GB 3.5" SATA	No	DVD±RW	1xQuadro 400	No	No	Switch	Pro 64
1097-32U	1xE5-2603	1333MHz UDIMM	1x4GB	No	SATA	No	1x500GB 3.5" SATA	No	DVD±RW	1xQuadro 600	No	No	Switch	Pro 64
1097-36U	1xE5-2603	1333MHz UDIMM	1x4GB	No	SATA	No	1x500GB 3.5" SATA	No	DVD±RW	1xQuadro 2000D	No	No	Switch	Pro 64

Processor	Intel® Xeon® E5-2603 processor (4C/4T, 1.8GHz, 10MB, 6.4 GT/s QPI x2), 4-channel DDR3 memory controller (up to 1066MHz)	Tower
Implementation	Two LGA2011 sockets, supports up to two processors	• Rack-mountable to 3U • Raven black color; metal case • 5.1"W x 17.5"D x 16.8"H
	UDIMM or RDIMM, ECC, DDR3, 8-channel capable (4-channel per	• 5.1"W x 17.5"D x 16.8"H
Memory Additional memory	processor), eight 240-pin DIMM sockets UDIMM: up to PC3-10600 1333MHz, 64GB max (8x8GB) RDIMM: up to PC3-12800 1600MHz, 128GB max (8x16GB) • Actual memory operating speed depends on processor memory	130mm W x 444mm D x 427mm H (without rubber feet) 40.7 lb (18.5kg) max configuration 24-liter Toolless side cover removal
Additional memory disclaimers	controller speed, installed memory speed, and quantity of memory DIMMs Over four DIMMs requires dual processors Mixing of RDIMM and UDIMM is not supported	 Toolless disk and optical drive removal Toolless adapter retention Illuminated front icons Rack shelf support or optional rail kit
Graphics	Supports up to two NVIDIA® Quadro® 5000, NVIDIA SLI® Technology support (see accessory sheet O-ALI) Some: NVIDIA Quadro NVS 300, PCIe x16 adapter, 512MB, DMS59 to dual single-link DVI-I, 17.5W Some: NVIDIA Quadro 400, PCIe x16 adapter, 512MB, one DisplayPort™, one dual-link DVI-I, 32W Some: NVIDIA Quadro 600, PCIe x16 adapter, 1GB,	Bay 1 5.25",1.6" high, external, for optical Bay 2-4 3.5", 1" high, internal, for disk Slot 1: half-length, full-height, PCle 3.0 x16 (near CPU, x4 elec) Slot 2: full-length, full-height, PCle 3.0 x16* Slot 3: full-length, full-height, 32-bit PCl 2.3
	one DisplayPort, one dual-link DVI-I, 40W Some: NVIDIA Quadro 2000D, PCIe x16 adapter, 1GB, two dual-link DVI-I, 62W	Slot 4: full-length, full-height, PCle 3.0 x16* Slot 5: full-length, full-height, PCle 2.0 x4 Slot 6: half-length, full-height, 32-bit PCl 2.3
Media reader Optical Hard drive(s)	None Super Multi-Burner DL DVD±RW SATA 1.5Gb/s Drive 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	* Adapters >75W use auxiliary power connector(s) from PSU
0 1 10171	2.5" SSD: Solid State Drive (SSD), SATA 6.0Gb/s	
Onboard SATA - AHCI	Four SATA Advanced Host Controller Interface (AHCI) connectors for opticals and hard drives, two SATA 6.0Gb/s connectors (red), two SATA 3.0Gb/s connectors (orange), RAID 0, 1, 5 support via Intel C602 Chipset	SECURITY
- SCU	Three SATA or SAS Storage Controller Unit (SCU) connectors (blue) for hard drives SATA: Three SATA connectors for hard drives, SATA 3.0Gb/s, RAID 0, 1, 5 support via Intel C602 Chipset SAS: Three SATA/SAS ⁴ connectors for hard drives, SATA 3.0Gb/s, SAS 3.0Gb/s, RAID 0, 1 support via Intel C602 Chipset and SAS HDD Enablement Module (Upgrade ROM #1)	Security chip (see information on left) Gide 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
Discrete SATA/SAS adapter	9240: LSI® SAS 9240-8i, PCI Express® bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 5 support	Administrator password Boot sequence control
Chipset	Intel C602 Chipset	Boot without keyboard, mouse, diskette
Front ports	Two USB 2.0, microphone (3.5mm), headphone (3.5mm)	Serial port I/O enable/disable USB 2.0 ports enable/disable individually
Rear ports IEEE 1394 adptr	Eight USB 2.0, two USB 3.0 (blue ports), serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in) No onboard 1394 ports;	USB 3.0 ports enable/disable concurrently Chassis intrusion switch on selected model(s)
ILLE 1004 aupti	1394 models: additional FireWire PCI adapter, 1394a-2000,	Preloaded operating system ²⁰
Audio Speaker Ethernet Security chip	400Mbps, two 6-pin ports on rear High Definition (HD) Audio, Realtek® ALC662 codec Internal speaker for business audio One onboard gigabit ethernet, Intel 82579 Nuvoton NPCT421L for TPM function, TCG 1.2-compliant	Windows® 7 Professional 64 Preloaded applications® (only some listed) Rescue and Recovery® Norton® Internet Security (30 days of virus definitions) Adobe® Reader® Adobe Flash® Player
Keyboard	Preferred Pro USB Keyboard (USB connector), 104-key, black	Adobe Flash* Flayer Microsoft® Office 2013 preloaded;
Mouse Power supply	Optical Wheel Mouse (USB connector), black 800 watts with 80mm side-mounted variable speed fan, universal, Climate Savers® Computing Gold, 80 PLUS® Gold qualified	purchase product key to activate Corel® WinDVD® (DVD±RW model(s)) Ulead® DVD MovieFactory® (DVD±RW model(s))
Limited Warranty	3-year parts and labor; more Lenovo® services see on S-TS sheet	ISV certifications
Intel AMT	Supports Intel Active Management Technology 7	Please visit www.lenovo.com/support/ISV
		GREENGUARD® certified RoHS-compliant EPEAT™ Gold rating
		Supports ThinkVantage® technologies
		More compatible accessories, please see O-ALI sheet

ThinkStation® C30 (1097) - TopSeller - II

Туре-		Memory	Memory		Onboard SATA/SAS	Pre-conf		Media	SATA	Graphics	1394		Chassis intrusion	Win7
model	Processor(s)	(MHz/type)	DIMMs	adapter	-SCU	RAID	Hard drive(s)	reader	optical	adapter(s)	adptr	Global	switch	preload
1097-37U	1xE5-2609	1333MHz UDIMM	1x4GB	No	SATA	No	1x500GB 3.5" SATA	No	DVD±RW	1xQuadro 600	No	No	Switch	Pro 64
1097-38U	1xE5-2620	1333MHz UDIMM	1x4GB	No	SATA	No	1x500GB 3.5" SATA	No	DVD±RW	1xQuadro 2000D	No	No	Switch	Pro 64
1097-39U	1xE5-2609	1333MHz UDIMM	1x4GB	No	SAS	No	1x300GB 2.5" SAS	No	$DVD \pm RW$		No	No	Switch	Pro 64

Processor	Intel® Xeon® E5-2609 processor (4C/4T, 2.4GHz, 10MB, 6.4 GT/s QPI x2), 4-channel DDR3 memory controller (up to 1066MHz) Intel Xeon E5-2620 processor (6C/12T, 2.0GHz, 15MB, 7.2 GT/s QPI x2), Turbo Boost 2.0 (up to 2.5GHz),	Tower • Rack-mountable to 3U • Raven black color; metal case • 5.1"W x 17.5"D x 16.8"H
	4-channel DDR3 memory controller (up to 1333MHz)	- 130mm W x 444mm D x 427mm H
Implementation	Two LGA2011 sockets, supports up to two processors	(without rubber feet)
Additional memory disclaimers	UDIMM or RDIMM, ECC, DDR3, 8-channel capable (4-channel per processor), eight 240-pin DIMM sockets UDIMM: up to PC3-10600 1333MHz, 64GB max (8x8GB) RDIMM: up to PC3-12800 1600MHz, 128GB max (8x16GB) • Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs • Over four DIMMs requires dual processors	40.7 lb (18.5kg) max configuration 24-liter Toolless side cover removal Toolless disk and optical drive removal Toolless adapter retention Illuminated front icons Rack shelf support or optional rail kit
	Mixing of RDIMM and UDIMM is not supported	Bay 1 5.25",1.6" high, external, for optical
Graphics	Supports up to two NVIDIA® Quadro® 5000, NVIDIA SLI® Technology support (see accessory sheet O-ALI) Some: NVIDIA Quadro 600, PCIe x16 adapter, 1GB, one DisplayPort™, one dual-link DVI-I, 40W Some: NVIDIA Quadro 2000D, PCIe x16 adapter, 1GB, two dual-link DVI-I, 62W	Bay 2-4 3.5", 1" high, internal, for disk Slot 1: half-length, full-height, PCle 3.0 x16 (near CPU, x4 elec) Slot 2: full-length, full-height, PCle 3.0 x16* Slot 3: full-length, full-height, 32-bit PCl 2.3 Slot 4: full-length, full-height, PCle 3.0 x16*
Media reader	None	Slot 5: full-length, full-height, PCIe 2.0 x4 Slot 6: half-length, full-height, 32-bit PCI 2.3
Optical Hard drive(s)	Super Multi-Burner DL DVD±RW SATA 1.5Gb/s Drive 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	* Adapters >75W use auxiliary power connector(s) from PSU
Onboard SATA - AHCI	Four SATA Advanced Host Controller Interface (AHCI) connectors for opticals and hard drives, two SATA 6.0Gb/s connectors (red), two SATA 3.0Gb/s connectors (orange), RAID 0, 1, 5 support via Intel C602 Chipset	SECURITY
- SCU	Three SATA or SAS Storage Controller Unit (SCU) connectors (blue) for hard drives SATA: Three SATA connectors for hard drives, SATA 3.0Gb/s, RAID 0, 1, 5 support via Intel C602 Chipset SAS: Three SATA/SAS ⁴ connectors for hard drives, SATA 3.0Gb/s, SAS 3.0Gb/s, RAID 0, 1 support via Intel C602 Chipset and SAS HDD Enablement Module (Upgrade ROM #1)	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)
Discrete SATA/SAS adapter	9240: LSI® SAS 9240-8i, PCI Express® bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 5 support	Power-on password Administrator password Boot sequence control
Chipset	Intel C602 Chipset	Boot without keyboard, mouse, diskette
Front ports Rear ports IEEE 1394 adptr	Two USB 2.0, microphone (3.5mm), headphone (3.5mm) Eight USB 2.0, two USB 3.0 (blue ports), serial (9-pin), one ethernet (RJ- 45), three analog audio ports (line-in, line-out, mic-in) No onboard 1394 ports;	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)
1222 100 r ddpti	1394 models: additional FireWire PCI adapter, 1394a-2000, 400Mbps, two 6-pin ports on rear	Preloaded operating system ²⁰ • Windows® 7 Professional 64
Audio	High Definition (HD) Audio, Realtek® ALC662 codec	Preloaded applications ⁵ (only some listed)
Speaker	Internal speaker for business audio	Rescue and Recovery®
Ethernet Security chip	One onboard gigabit ethernet, Intel 82579 Nuvoton NPCT421L for TPM function, TCG 1.2-compliant	Norton® Internet Security (30 days of virus definitions) Adoba® Boador®
Keyboard	Preferred Pro USB Keyboard (USB connector), 104-key, black	Adobe® Reader® Adobe Flash® Player
Mouse	Optical Wheel Mouse (USB connector), black	Microsoft® Office 2013 preloaded;
Power supply	800 watts with 80mm side-mounted variable speed fan, universal, Climate Savers® Computing Gold, 80 PLUS® Gold qualified	purchase product key to activate Corel® WinDVD® (DVD±RW model(s)) Ulead® DVD MovieFactory® (DVD±RW model(s))
Limited Warranty	3-year parts and labor; more Lenovo® services see on S-TS sheet	ISV certifications
Intel AMT	Supports Intel Active Management Technology 7	Please visit www.lenovo.com/support/ISV
		GREENGUARD® certified RoHS-compliant EPEAT™ Gold rating
		Supports ThinkVantage® technologies
		More compatible accessories, please see O-ALI sheet

optical

2 disk

3 disk

ThinkStation® C30 (1095)

Type-		Memory	Memory	Discrete SATA/SAS	Onboard SATA/SAS	Pre-conf		Media	SATA	Graphics and GPU	1394		Chassis intrusion	Win7
model	Processor(s)	(MHz/type)	DIMMs	adapter	-SCU	RAID	Hard drive(s)	reader	optical	Computing	adptr	Global	switch	preload
1095-49U	1xE5-2609	1333MHz UDIMM	1x4GB	No	SATA	No	1x500GB 3.5" SATA	No	DVD±RW	1xNVS 300	No	No	Switch	Pro 64
1095-51U	1xE5-2609	1333MHz UDIMM	1x4GB	No	SATA	No	1x500GB 3.5" SATA	No	DVD±RW	1xQuadro 400	No	No	Switch	Pro 64
1095-52U	1xE5-2620	1333MHz UDIMM	1x4GB	No	SATA	No	1x500GB 3.5" SATA	No	DVD±RW	1xQuadro 600	No	No	Switch	Pro 64

Processor	Intel® Xeon® E5-2609 processor (4C/4T, 2.4GHz, 10MB, 6.4 GT/s QPI x2), 4-channel DDR3 memory controller (up to 1066MHz) Intel Xeon E5-2620 processor (6C/12T, 2.0GHz, 15MB, 7.2 GT/s QPI x2), Turbo Boost 2.0 (up to 2.5GHz), 4-channel DDR3 memory controller (up to 1333MHz)	
Implementation	Two LGA2011 sockets, supports up to two processors	1
Memory	UDIMM or RDIMM, ECC, DDR3, 8-channel capable (4-channel per processor), eight 240-pin DIMM sockets UDIMM: up to PC3-10600 1333MHz, 64GB max (8x8GB) RDIMM: up to PC3-12800 1600MHz, 128GB max (8x16GB)	
Additional memory disclaimers	 Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs Over four DIMMs requires dual processors Mixing of RDIMM and UDIMM is not supported 	
Graphics	Supports up to two NVIDIA® Quadro® 5000, NVIDIA SLI® Technology support (see accessory sheet O-ALI) Some: NVIDIA Quadro NVS 300, PCIe x16 adapter, 512MB, DMS59 to dual single-link DVI-I, 17.5W Some: NVIDIA Quadro 400, PCIe x16 adapter, 512MB, one DisplayPort™, one dual-link DVI-I, 32W Some: NVIDIA Quadro 600, PCIe x16 adapter, 1GB, one DisplayPort, one dual-link DVI-I, 40W	
Media reader	None	1
Optical	Super Multi-Burner DL DVD±RW SATA 1.5Gb/s Drive	
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	
Onboard SATA - AHCI	Four SATA Advanced Host Controller Interface (AHCI) connectors for opticals and hard drives, two SATA 6.0Gb/s connectors (red), two SATA 3.0Gb/s connectors (orange) RAID 0, 1, 5 support via Intel C602 Chipset	
	Three SATA or SAS Storage Controller Unit (SCU) connectors (blue) for	
- SCU	hard drives SATA: Three SATA connectors for hard drives, SATA 3.0Gb/s, RAID 0, 1, 5 support via Intel C602 Chipset SAS: Three SATA/SAS ⁴ connectors for hard drives, SATA 3.0Gb/s, SAS 3.0Gb/s, RAID 0, 1 support via Intel C602 Chipset and SAS HDD Enablement Module (Upgrade ROM #1)	
	9240: LSI® SAS 9240-8i, PCI Express® bus,	1
adapter	SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 5 support	4
Chipset	Intel C602 Chipset	
Front ports	Two USB 2.0, microphone (3.5mm), headphone (3.5mm)	
Rear ports IEEE 1394 adptr	Eight USB 2.0, two USB 3.0 (blue ports), serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in) No onboard 1394 ports; 1394 models: additional FireWire PCI adapter, 1394a-2000,	
	400Mbps, two 6-pin ports on rear	
Audio	High Definition (HD) Audio, Realtek® ALC662 codec	-
Speaker	Internal speaker for business audio	
Ethernet Security chip	One onboard gigabit ethernet, Intel 82579 Nuvoton NPCT421L 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	800 watts with 80mm side-mounted variable speed fan, universal,	
. onor ouppry	Climate Savers® Computing Gold, 80 PLUS® Gold qualified	
Limited Warranty	3-year parts and labor; more Lenovo® services see on S-TS sheet	1
Intel AMT	Supports Intel Active Management Technology 7	1

Tower

- · Rack-mountable to 3U
- · Raven black color; metal case
- 5.1"W x 17.5"D x 16.8"H
- 130mm W x 444mm D x 427mm H (without rubber feet)
- 40.7 lb (18.5kg) max configuration
- 24-liter
- Toolless side cover removal
- Toolless disk and optical drive removal
- · Toolless adapter retention
- Illuminated front icons
- Rack shelf support or optional rail kit

Bay 1 5.25",1.6" high, external, for optical Bay 2-4 3.5", 1" high, internal, for disk

Slot 1: half-length, full-height, PCle 3.0 x16 (near CPU, x4 elec) Slot 2: full-length, full-height, PCle 3.0 x16* Slot 3: full-length, full-height, 32-bit PCl 2.3 Slot 4: full-length, full-height, PCle 3.0 x16* Slot 5: full-length, full-height, PCle 2.0 x4 Slot 6: half-length, full-height, 32-bit PCl 2.3

* Adapters >75W use auxiliary power connector(s) from PSU

SECURITY

- 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 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 on selected model(s)

Preloaded operating system²⁰

Windows® 7 Professional 64

Preloaded applications⁵ (only some listed)

- Rescue and Recovery
- Norton® Internet Security (30 days of virus definitions) Adobe® Reader® Adobe Flash® Player

- Microsoft® Office 2013 preloaded;
- purchase product key to activate
 Corel® WinDVD® (DVD±RW model(s))
 Ulead® DVD MovieFactory® (DVD±RW model(s))

ISV certifications

Please visit www.lenovo.com/support/ISV

GREENGUARD® certified RoHS-compliant EPEAT™ Gold rating

Supports ThinkVantage® technologies

More compatible accessories, please see O-ALI sheet

ThinkStation® C30 (1095) - II

Type-		Memory	Memory	Discrete SATA/SAS	Onboard SATA/SAS	Pre-conf		Media	SATA	Graphics and GPU	1394		Chassis intrusion	Win7
model	Processor(s)	(MHz/type)	DIMMs	adapter	-SCU	RAID	Hard drive(s)	reader	optical	Computing	adptr	Global	switch	preload
1095-53U	1xE5-2620	1333MHz UDIMM	1x4GB	No	SATA	No	1x500GB 3.5" SATA	No	DVD±RW	1xQuadro 2000D	No	Global	Switch	Pro 64
1095-54U	1xE5-2620	1333MHz UDIMM	1x4GB	No	SATA	No	1x500GB 3.5" SATA	No	DVD±RW	1xQuadro 4000	No		Switch	Pro 64
≈1095-57U	1xE5-2620	1333MHz UDIMM	1x4GB	No	SATA	No	1x500GB 3.5" SATA	No	DVD±RW	1xQuadro 4000	No		Switch	Pro 64
1095-59U	1xE5-2620	1333MHz UDIMM	1x4GB	No	SAS	No	1x300GB 2.5" SAS	No	DVD±RW	1xQuadro 2000D	No		Switch	Pro 64
1095-61U	1xE5-2630	1333MHz UDIMM	1x4GB	No	SATA	No	1x500GB 3.5" SATA	No	$DVD \pm RW$	1xQuadro 2000D	No		Switch	Pro 64
1095-62U	1xE5-2630	1333MHz UDIMM	2x4GB	No	SAS	No	1x300GB 2.5" SAS	No	DVD±RW	1xQuadro 4000	No	Global	Switch	Pro 64

Processor	Intel® Xeon® E5-2620 processor (6C/12T, 2.0GHz, 15MB, 7.2 GT/s QPI x2), Turbo Boost 2.0 (up to 2.5GHz), 4-channel DDR3 memory controller (up to 1333MHz) Intel Xeon E5-2630 processor (6C/12T, 2.3GHz, 15MB, 7.2 GT/s QPI x2), Turbo Boost 2.0 (up to 2.8GHz), 4-channel DDR3 memory controller (up to 1333MHz)	Tower Rack-mountable to 3U Raven black color; metal case 5.1"W x 17.5"D x 16.8"H 130mm W x 444mm D x 427mm H (without rubber feet)
Implementation	Two LGA2011 sockets, supports up to two processors	• 40.7 lb (18.5kg) max configuration
Memory Additional memory	UDIMM or RDIMM, ECC, DDR3, 8-channel capable (4-channel per processor), eight 240-pin DIMM sockets UDIMM: up to PC3-10600 1333MHz, 64GB max (8x8GB) RDIMM: up to PC3-12800 1600MHz, 128GB max (8x16GB) • Actual memory operating speed depends on processor memory	24-liter Toolless side cover removal Toolless disk and optical drive removal Toolless adapter retention Illuminated front icons Rack shelf support or optional rail kit
disclaimers	controller speed, installed memory speed, and quantity of memory DIMMs Over four DIMMs requires dual processors Mixing of RDIMM and UDIMM is not supported	Bay 1 5.25",1.6" high, external, for optical Bay 2-4 3.5", 1" high, internal, for disk
Graphics	Supports up to two NVIDIA® Quadro® 5000, NVIDIA SLI® Technology support (see accessory sheet O-ALI) Some: NVIDIA Quadro 2000D, PCIe x16 adapter, 1GB, two dual-link DVI-I, 62W Some: NVIDIA Quadro 4000, PCIe x16 adapter, 2GB, two DisplayPort™, one dual-link DVI-I, one stereo, 142W	Slot 1: half-length, full-height, PCle 3.0 x16 (near CPU, x4 elec) Slot 2: full-length, full-height, PCle 3.0 x16* Slot 3: full-length, full-height, 32-bit PCl 2.3 Slot 4: full-length, full-height, PCle 3.0 x16* Slot 5: full-length, full-height, PCle 2.0 x4 Slot 6: half-length, full-height, 32-bit PCl 2.3
Media reader Optical Hard drive(s)	None Super Multi-Burner DL DVD±RW SATA 1.5Gb/s Drive 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	* Adapters >75W use auxiliary power connector(s) from PSU
Onboard SATA - AHCI	Four SATA Advanced Host Controller Interface (AHCI) connectors for opticals and hard drives, two SATA 6.0Gb/s connectors (red), two SATA 3.0Gb/s connectors (orange), RAID 0, 1, 5 support via Intel C602 Chipset	SECURITY • Security chip (see information on left) • Side cover lock (ships with two identical keys)
Onboard SATA/SAS - SCU	Three SATA or SAS Storage Controller Unit (SCU) connectors (blue) for hard drives SATA: Three SATA connectors for hard drives, SATA 3.0Gb/s, RAID 0, 1, 5 support via Intel C602 Chipset SAS: Three SATA/SAS ⁴ connectors for hard drives, SATA 3.0Gb/s, SAS 3.0Gb/s, RAID 0, 1 support via Intel C602 Chipset and SAS HDD Enablement Module (Upgrade ROM #1)	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
Discrete SATA/SAS adapter	9240: LSI® SAS 9240-8i, PCI Express® bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 5 support	Boot without keyboard, mouse, diskette Serial port I/O enable/disable USB 2.0 ports enable/disable individually
Chipset	Intel C602 Chipset	USB 3.0 ports enable/disable concurrently
Front ports	Two USB 2.0, microphone (3.5mm), headphone (3.5mm)	Chassis intrusion switch on selected model(s)
Rear ports IEEE 1394 adptr	Eight USB 2.0, two USB 3.0 (blue ports), serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in) No onboard 1394 ports; 1394 models: additional FireWire PCI adapter, 1394a-2000,	Preloaded operating system ²⁰ Windows® 7 Professional 64 Preloaded applications ⁵ (only some listed) Rescue and Recovery®
Audio	400Mbps, two 6-pin ports on rear High Definition (HD) Audio, Realtek® ALC662 codec	Norton® Internet Security (30 days of virus definitions)
Audio Speaker	Internal speaker for business audio	Adobe® Reader®
Ethernet	One onboard gigabit ethernet, Intel 82579	Adobe Flash® Player Missesett® Office 2012 prolesded.
Security chip	Nuvoton NPCT421L for TPM function, TCG 1.2-compliant	Microsoft® Office 2013 preloaded; purchase product key to activate
Keyboard Mouse	Preferred Pro USB Keyboard (USB connector), 104-key, black Optical Wheel Mouse (USB connector), black	Corel® WinDVD® (DVD±RW model(s)) Ulead® DVD MovieFactory® (DVD±RW model(s))
Power supply	800 watts with 80mm side-mounted variable speed fan, universal, Climate Savers® Computing Gold, 80 PLUS® Gold qualified	ISV certifications Please visit www.lenovo.com/support/ISV
Limited Warranty	3-year parts and labor; more Lenovo® services see on S-TS sheet	GREENGUARD® certified
Intel AMT	Supports Intel Active Management Technology 7	RoHS-compliant EPEAT™ Gold rating
		Supports ThinkVantage® technologies
		More compatible accessories, please see O-ALI sheet

ThinkStation® C30 Accessories

Partial list of accessories supported on ThinkStation	U3U	Security Kensington MicroSaver Cable Lock	73P258
Processor Heatsink		Kensington Twin Head Cable Lock	45K162
Second Processor Heatsink for C30	0A65721	Lenovo Security Cable Lock	57Y430
Memory ⁵³		USB Gemplus GemPC Smart Card Reader	41N304
2GB PC3-10600 DDR3 ECC UDIMM ⁵⁴	43R2033	Rack mount accessories	
4GB PC3-10600 DDR3 ECC UDIMM ⁵⁴	57Y4138	ThinkStation C-Series, D-Series Rail Kit	57Y448
BGB PC3-10600 DDR3 ECC UDIMM ⁵⁴	0A65718	Connectivity	37144
4GB PC3-12800 DDR3 ECC RDIMM ⁵⁴	0A65732		00104
BGB PC3-12800 DDR3 ECC RDIMM ⁵⁴	0A65733	10Gbps Ethernet X540-T2 Server Adapter by Intel	0C1949
More information on memory and processor configuration			
imitation, please visit:	ori, operation and		
www.lenovo.com/support/thinkstationaccessories			
•••		_	
Optical			
DVD-ROM DL SATA1.5Gb/s 16X-48X Max ⁴	41N5618		
Lenovo® Super Multi-Burner SATA Drive	0A65618		
Blu-ray™ Burner SATA1.5Gb/s	45K1675		
Storage and removable storage			
500GB SATA 3.0Gb/s Disk (7200 rpm)	43R1990		
1TB SATA 3.0Gb/s Disk (7200 rpm)	45J7918		
450GB SAS 3.0Gb/s Disk (7200 rpm) ⁶⁸	43N3424		
180GB Solid State Drive	43N3424 0B47308		
	UD47300	_	
Keyboard			
Preferred Pro USB Keyboard	73P5220		
Enhanced Performance USB Keyboard	73P2620		
_enovo USB Fingerprint Keyboard	73P4730		
Lenovo USB Smartcard Keyboard	51J0155		
Ultraslim Plus Wireless Keyboard and Mouse52	0A34032		
More information at www.lenovo.com/support/keyboa	rds		
Mouse			
Lenovo Optical Mouse (USB)	06P4069		
Lenovo ScrollPoint Mouse (USB, Optical)	31P7405		
Lenovo Laser Mouse (USB)	41U3074		
Lenovo Wireless Laser Mouse ⁵²	0A36188		
More information at www.lenovo.com/support/mice	0400100		
Monitors - ThinkVision®			
L1711p 17" (VGA, DVI-D)	5047HB2		
LT1952p Wide 19" (VGA, DP, DVI-D)69	2448MB6		
L2250p Wide 22" (VGA, DVI-D)	2572HB6		
L2251x Wide 22" (VGA, DP)	2578HB6		
LT2252p Wide 22" (VGA, DP, DVI-D)69	2572MB6		
LT2452p Wide 24" (VGA, DP, DVI-D)69	4420MB2		
More information at www.lenovo.com/support/monito	rs		
Monitor accessories ⁴⁶			
Kensington® MicroSaver® Cable Lock	73P2582		
Kensington Twin Head Cable Lock	45K1620		
More information at www.lenovo.com/support/monito			
	110000001100	_	
Graphics			
DisplayPort [™] to Single-link DVI-D Cable ⁵⁰	45J7915	⁴⁶ Compatible on selected Lenovo and ThinkVision mor	nitors.
DisplayPort to DisplayPort Monitor Cable50	0A36537	⁵⁰ Attaches to selected DisplayPort graphics cards.	
NVIDIA® NVS™ 300 512MB DMS59 ⁶⁵	0A36528	52 Wireless via 2.4GHz technology using a micro-size L	JSB receiver
NVIDIA NVS 310 512MB	0B47074	⁵³ Mixing of UDIMM and RDIMM is not supported.	
NVIDIA NVS 510 2GB Graphics Card by Lenovo	0B47077	54 Actual memory operating speed depend on processing controller speed, installed memory speed, and quantitative.	or memory
NVIDIA Quadro 512MB 410	0B47075	controller speed, installed memory speed, and quant	tity of memo
NVIDIA Quadro 1GB 600	0A36183	DIMMs. 65 Contains DMS59 to dual-DVI cable and DMS59 to du	IOLVC A
NVIDIA Quadro 1GB 2000	57Y4479	cable.	iai-vGA
NVIDIA Quadro 1GB 2000D	0A36541	8 ThinkStaion C30 needs SAS HDD Enablement Modu	ıle or I SI
NVIDIA Quadro 2GB 4000	57Y4480	SATA/SAS adapter to support SAS hard drive.	AIO OI LOI
NVIDIA Quadro K600 1GB Graphics Card by Lenovo	0B47394	69 DisplayPort cable is not included; use optional	
NVIDIA Quadro K2000 2GB Graphics Card by Lenovo	0B47392	DisplayPort to DisplayPort Monitor Cable (0A36537)	
NVIDIA Quadro K2000 2GB Graphics Card by Lenovo	0B47393	For more information on accessories:	
NVIDIA Quadro K5000 4GB Graphics Card by Lenovo	0B47393 0B47081	www.lenovo.com/accessories	
		Purchase Lenovo accessories	
More information at www.lenovo.com/support/graphic	caras	www.lenovo.com/support/accessories	
		Product specifications on Lenovo Support www.lenovo.com/accessoriesguide	
		Option Compatibility Matrix (OCM) and accessory www.lenovoquickpick.com	
		An Options Compatibility Configurator for Lenovo s	ystems
		T. Control of the Con	

ThinkStation



Lenovo ThinkStation S30



Lenovo ThinkStation S30



Lenovo ThinkStation S30



Lenovo ThinkStation S30



Lenovo ThinkStation S30



Lenovo ThinkStation S30

ThinkStation® S30 (0568) - TopSeller

				Discrete	Onboard								Chassis	
Type- model Prod	essor	Memory (MHz/type)	Memory DIMMs	SATA/SAS adapter	SATA/SAS -SCU	Pre-conf RAID	Hard drive(s)	Media reader	SATA optical	Graphics adapter(s)	1394 adptr	Global	intrusion switch	Win7 preload
0568-46U E5-	1603	1333MHz UDIMM	1x4GB	No	SATA	No	1x500GB 3.5" SATA	Media	DVD±RW		No	No	No	Pro 64
0568-47U E5-	1603	1333MHz UDIMM	1x4GB	No	SATA	No	1x500GB 3.5" SATA	Media	DVD±RW	1xQuadro 400	No	No	No	Pro 64
		1333MHz UDIMM		No	SATA		1x500GB 3.5" SATA				No	No	No	Pro 64
		1333MHz UDIMM		No	SATA		1x500GB 3.5" SATA				No	No	No	Pro 64
		1333MHz UDIMM		No	SATA		1x500GB 3.5" SATA					No	No	Pro 64
		1333MHz UDIMM		No	SATA		1x500GB 3.5" SATA				No	No	No	Pro 64
		1333MHz UDIMM		No	SAS		1x300GB 2.5" SAS			1xQuadro 2000D		No	No	Pro 64
0568-91U E5-	1620	1333MHz UDIMM	1x4GB	No	SAS	No	1x300GB 2.5" SAS	Media	DVD±RW	1xQuadro 2000D	No	No	No	Pro 64
Processor		4-channel DDR3	le DDR3 620 proce (up to 3.8 650 proce (up to 3.8 6 DDR3 603 proce memory 609 proce	memory (essor (40 3GHz), memory (essor (60 3GHz), memory (essor (40 controller essor (40	controller (ic/8T, 3.6Gh controller (ic/12T, 3.2G controller (ic/4T, 1.8Gh r (up to 106 c/4T, 2.4Gh	up tó 100 Hz, 10ME up to 160 GHz, 12M up to 160 Hz, 10ME 66MHz) Hz, 10ME	66MHz) 3) , 00MHz) 1B) ,	, -	1 optical 2 optical 3 media 0 optical 1 optical 2 optical 2 optical 3 media 1 optical 4 disk 5 disk 6 disk	Raven black c 6.9"W x 18.1" 175mm W x 4 38.5 lb (17.5kg 31-liter Removable ha Toolless disk a Toolless adap Illuminated fro Rack shelf sup	D x 18 60mm g) max andle cover i and op ter reto ant icon	B.8"H (v D x 47 x config on top f remova otical dr ention	vith handl '8mm H guration ront I	,
Implementatio	n	One LGA2011 so	cket, su	pports up	to one pro	cessor								
Memory		UDIMM or RDIM eight 240-pin DIM UDIMM: up to F RDIMM: up to F	/IM socke PC3-106 PC3-128	ets 00 1333M 00 1600M	Hz, 64GB Hz, 128GB	max (8x8 3 max (8	x16ĠB)	Bay		5", 1.6" high, ex ", 1" high, ex	kterna kterna		optical media re	ader
Additional memory		 Actual memory o controller speed, 						Bay	4-6: 3.5		ternal		disk	
disclaimers		Mixing of RDIMM	and UDI	MM is not s	upported	-	·	Slo	t 1: full-len	gth, full-height, P	Cle 3.	0 x16*	(near CP	U)
Graphics		Some: NVIDIA Q one Displa Some: NVIDIA Q two dual-li Some: NVIDIA Q	uadro 4 ayPort™, uadro 6 ayPort, o uadro 2 ink DVI-I uadro 4	00, PCle 3 one dual- 00, PCle 3 one dual-lii 000D, PC , 62W 000, PCle	x16 adapte -link DVI-I, x16 adapte nk DVI-I, 40 le x16 ada	er, 512Mf 32W er, 1GB, DW pter, 1Gl	В,	Slo Slo Slo	t 3: full-len t 4: full-len t 5: half-ler	gth, full-height, P gth, full-height, P gth, full-height, 33 ngth, full-height, F -75W use auxilian	Cle 3. 2-bit P PCle 2	0 x16* CI 2.3 .0 x4		rical)
Media reader		Media: 25-in-1 M	1edia cai	rd reader,	internal US	SB 2.0								
Optical Hard drive(s) Onboard SATA	^	Super Multi-Burn 3.5" SATA: 2.5" SATA: 2.5" SAS: 2.5" SSD:	SATA SATA SAS Solid	6.0Gb/s, 6.0Gb/s, 6.0Gb/s, State Dri	7200 rpm 10000 rpm 15000 rpm ve (SSD), 9	n SATA 6.0		• Si	de cover lo	SECURITY o (see information ock (ships with two (in rear for opt p	on le o iden	tical ke	ys)	
AHCI		RAID 0, 1 suppor	ard drive s connec rt via Inte	es, ctors (red), el C602 ch	two SATA nipset	3.0Gb/s	connectors (orange	pa • Se • Ke	idlock profecurity slotensington® ohibits side	libits side cover re (in rear for option Microsaver® cable cover removal)	emova nal			
- SCU	VSAS	SAS: Three SA' SATA 3.00	TA conne 3b/s, RA TA/SAS ⁴ 3b/s, SA	ectors for I ID 0, 1, 5 connecto S 3.0Gb/s	nard drives support via rs for hard , RAID 0, 1	s, a Intel Ce drives, I suppor	nnectors (blue) 602 chipset t via Intel C602 grade ROM #1)	• Ad • Bd • Bd • Se • US	oot sequen oot without erial port I/ SB 2.0 por SB 3.0 por	r password ce control keyboard, mouse O enable/disable ts enable/disable ts enable/disable	individ	dually urrently		
adapter	VSAS	9240: LSI® SAS 9 SATA 6.0G	b/s, SAS	PCI Expre 6 6.0Gb/s,	ss [®] bus, RAID 0, 1	, 5 supp	ort			Preloaded oper				
Chipset Front porto		Intel C602 Chips		0 (2 Emm-)	hoodah	00 /2 Fr	um)	⊣• տ		Professional 64	5 /-	و میاند	- H-4N	
Front ports Rear ports		Two USB 2.0, mid Eight USB 2.0, tv	vo USB 3	3.0 (blue p	orts), one	serial (9	-pin),		escue and	aded application Recovery®	`	•	,	,
IEEE 1394 ad	ptr	one ethernet (RJ No onboard 1394 1394 models: add 40	l ports; ditional F	FireWire P	•	èr, 1394a		• A	dobe® Rea dobe Flash			of virus	definitio	ns)
Audio Speaker		High Definition (Handlernal speaker	ID) Audi for busin	o, Realtek ess audio	® ALC662			• C	urchase pr orel®WinD	oduct key to activ VD® (DVD±RW m MovieFactory® (I	ate nodel(:		del(s))	
Ethernet Security chip		One onboard gig STMicroelectroni	cs ST19			rm Modu	ule (TPM),			ISV certifi	catior	าร	. ,,	
Keyboard		TCG 1.2-complia		ord (LICD	oonnooto-	104 1	y black			ww.lenovo.com/su	ıpport	/ISV		
Mouse		Preferred Pro US Optical Wheel Mo					y, Diack			D® certified				
Power supply		610 watts with 12 Climate Savers	20mm bo	ttom-mou	nted variab	ole speed		EPE	IS-complia AT™ Gold	I rating	_			
Limited Warra	nty	3-year parts and						_		«Vantage® techno				
Intel AMT		Supports Intel Ac	tive Mar	nagement	Technology	y 7		Mor	e compatik	ole accessories, p	lease	see O	FOR she	et
0 (1 1	familia.	portant warranty i											0.1	enovo

ThinkStation® S30 (0569)

			Disercto	Onboord								Chassis	
Type- model Processor	Memory (MHz/type)		SATA/SAS adapter	Onboard SATA/SAS -SCU	Pre-conf	f Hard drive(s)	Media reader	SATA optical	Graphics adapter(s)	1394 adptr		Chassis intrusion switch	Win7
0569-56U E5-1603	• • • •		No	SATA	No	1x500GB 3.5" SATA	Media			No	No	No	Pro 64
0569-57U E5-2609	1333MHz UDIMM	1x4GB	No	SATA	No	1x500GB 3.5" SATA	Media	DVD±RW	1xQuadro 400	No	No	No	Pro 64
0569-59U E5-1650	1333MHz UDIMM	1x4GB	No	SATA	No	1x500GB 3.5" SATA	Media	DVD±RW	1xQuadro 2000D	No	No	No	Pro 64
0569-61U E5-1650	1333MHz UDIMM	1x4GB	No	SATA	No	1x500GB 3.5" SATA	Media	DVD±RW	1xQuadro 4000	No	No	No	Pro 6
0569-64U E5-1650	1333MHz UDIMM	1x4GB	No	SAS	No	1x300GB 2.5" SAS	Media	DVD±RW	1xQuadro 2000D	No	No	No	Pro 64
0569-65U E5-1660	1333MHz UDIMM	1x4GB	No	SAS	No	1x300GB 2.5" SAS	Media	DVD±RW	1xQuadro 4000	No	No	No	Pro 64
Processor	4-channel capabl Intel Xeon E5-16 Turbo Boost 2.0 (4-channel capabl Intel Xeon E5-16 Turbo Boost 2.0 (4-channel DDR3 Intel Xeon E5-26	Intel® Xeon® E5-1603 processor (4C/4T, 2.8GHz, 10MB), 4-channel capable DDR3 memory controller (up to 1066MHz) Intel Xeon E5-1650 processor (6C/12T, 3.2GHz, 12MB), Turbo Boost 2.0 (up to 3.8GHz), 4-channel capable DDR3 memory controller (up to 1600MHz) Intel Xeon E5-1660 processor (6C/12T, 3.3GHz, 15MB), Turbo Boost 2.0 (up to 3.9GHz), 4-channel DDR3 memory controller (up to 1600MHz) Intel Xeon E5-2609 processor (4C/4T, 2.4GHz, 10MB, 6.4 GT/s QPI x24-104 Capable DDR3 memory controller (up to 1066MHz) One LGA2011 socket, supports up to one processor UDIMM or RDIMM, ECC, DDR3, 4-channel capable, eight 240-pin DIMM sockets UDIMM: up to PC3-10600 1333MHz, 64GB max (8x8GB)						1 optical 2 optical 3 media 5 disk 6 disk	Raven black c 6.9"W x 18.1"I 175mm W x 4I 38.5 lb (17.5kg 31-liter Removable ha Toolless side c Toolless disk a Toolless adapt	D x 18 60mm g) max andle cover i and op ter reto	B.8"H (w D x 47 x config on top f remova otical dr ention	rith handl 8mm H uration ront I	,
Implementation				•		· · · · · · · · · · · · · · · · · · ·	- -	<i>3</i> 4.0.1	Illuminated fro		ns		
Memory	UDIMM or RDIM eight 240-pin DIM	M, ECC, //M socke PC3-106	DDR3 , 4- ets 00 1333M	channel ca	apable, max (8x	8GB) xx16GB)			Rack shelf sup	port			
Additional memory disclaimers	Actual memory o controller speed,Mixing of RDIMM	perating s installed i	speed depe memory spe	nds on proc eed, and qu	essor me	mory	Bay	/ 1-2: 5.2 / 3: 3.5 / 4-6: 3.5	", 1" high, ex	cterna cterna ternal	l, for	optical media re disk	ader
Graphics	Supports up to N Some: NVIDIA Q one Displa Some: NVIDIA Q two dual-li Some: NVIDIA Q two Displa	uadro 4 ayPort™, uadro 2 ink DVI-I uadro 4	00, PCle 2, one dual- 000D, PC , 62W 000, PCle	x16 adapte link DVI-I, le x16 ada x16 adap	er, 512M 32W apter, 1G ter, 2GB	B,	Slo Slo Slo Slo	t 1: full-len t 2: full-len t 3: full-len t 4: full-len t 5: half-lei	ngth, full-height, Pogth, full-height, Pogth, full-height, Pogth, full-height, 32 ngth, full-height, Forst use auxiliar	Cle 3. Cle 3. Cle 3. 2-bit P Cle 2	0 x16* 0 x16 0 x16* 0 I 2.3 2.0 x4	(near CP x4 electr	
Media reader	Media: 25-in-1 M	ledia ca	rd reader,	internal U	SB 2.0			from PSU	-75VV usc auxiliai	y pow	ci com	100101(3)	
Optical Hard drive(s)	Super Multi-Burn 3.5" SATA: 2.5" SATA: 2.5" SAS: 2.5" SSD:	SATA SATA SAS Solid	A 6.0Gb/s, A 6.0Gb/s, 6.0Gb/s, I State Dri	7200 rpm 10000 rpr 15000 rpm ve (SSD),	n I SATA 6.0	0Gb/s							
Onboard SATA - AHCI	for opticals and h two SATA 6.0Gb/s RAID 0, 1 suppor	ard drive s connec	es, ctors (red),	two SATA	•) connectors connectors (orange		ecurity chip	SECURITY o (see information	on le	ft)	,	
Onboard SATA/SAS - SCU	Three SATA or S, for hard drives SATA: Three SA SATA 3.00 SAS: Three SA SATA 3.00	AS Stora TA conne 3b/s, RA TA/SAS ⁴ 3b/s, SA	ectors for I ID 0, 1, 5 connector S 3.0Gb/s	nard drives support virs for hard , RAID 0,	s, a Intel C drives, 1 suppor	nnectors (blue) 602 chipset rt via Intel C602 pgrade ROM #1)	• Pa pa • Se Ke pr • Po • Ao	adlock loop adlock prob ecurity slot ensington® ohibits sido ower-on pa dministrato	or password	adlock emova nal	ς;	ys)	
Discrete SATA/SAS adapter	9240: LSI® SAS 9 SATA 6.0G	9240-8i, l ib/s, SAS	PCI Expre	ss® bus.	, ,		• Bo	ot without	nce control t keyboard, mouse 'O enable/disable	e, disk	ette		
Chipset	Intel C602 Chips								ts enable/disable				
Front ports	Two USB 2.0, mid								ts enable/disable <i>usion switch on se</i>			l(s)	
Rear ports IEEE 1394 adptr	No onboard 1394	-45), thre 1 ports;	ee analog	audio port	ts (line-ìr	n, line-out, mic-in)			Preloaded opera Professional 64			` '	
Audio	1394 models: add 40 High Definition (F	0Mbps,	two 6-pin إ	oorts on re	ear	a-2000,		escue and	paded application Recovery®	`	•	,	>
Speaker	Internal speaker							orton® inte dobe® Rea	ernet Security (30	days	of virus	aetinitioi	ns)
Ethernet Security chip	One onboard gig STMicroelectroni TCG 1.2-complia	cs ST19			orm Mod	ule (TPM),	• A	dobe Flash icrosoft® C					
Keyboard Mouse Power supply	Preferred Pro US Optical Wheel Mo 610 watts with 12	ouse (US	SB connec	tor), black			• C	orel® Win D	DVD® (DVϱRW m MovieFactory® (I	nodel(: DVD±I	RW mo	del(s))	
i owei suppiy	Climate Savers	Compu	iting Gold	I, 80 PLUS	S [®] Gold	qualified	Dica	aco vicit va	ISV certific				
Limited Warranty Intel AMT	Climate Savers® Computing Gold, 80 PLUS® Gold qualified 3-year parts and labor, more Lenovo® services see S-TS sheet Supports Intel Active Management Technology 7						Please visit www.lenovo.com/support/ISV GREENGUARD® certified RoHS-compliant EPEAT™ Gold rating						
									kVantage® techno	logica			
									ble accessories, p			FOR she	et
							Mor	e compatil	ble accessories, p	lease	see O-	FOR she	•

ThinkStation® S30 (0606) - GMP

Type-		Memory	Memory	Discrete SATA/SAS	Onboard SATA/SAS	Pre-conf		Media	SATA	Graphics	1394	Chassis intrusion	Win7
model	Processor	(MHz/type)	DIMMs	adapter	-SCU	RAID	Hard drive(s)	reader	optical	adapter(s)	adptr Global	switch	preload
0606-11U	E5-1620	1600MHz RDIMM	2x2GB	No	SATA		1x2TB 3.5" SATA	Media	DVD±RW	1xQuadro 2000	Global	No	Pro 64
0606-12U	E5-1650	1600MHz RDIMM	2x2GB	No	SATA		1x2TB 3.5" SATA	Media	DVD±RW	1xQuadro 2000	Global	No	Pro 64
0606-13U	E5-1650	1600MHz RDIMM	2x4GB	No	SATA		1x2TB 3.5" SATA	Media	DVD±RW	1xQuadro 2000	Global	No	Pro 64
0606-14U	E5-2620	1333MHz UDIMM	1x4GB	No	SATA		1x500GB 3.5" SATA	Media	DVD±RW	1xQuadro 600	Global	No	Pro 64
0606-15U	E5-2620	1333MHz UDIMM	1x4GB	No	SAS		1x300GB 2.5" SAS	Media	DVD±RW	1xQuadro 600	Global	No	Pro 64
0606-16U	E5-1620	1333MHz UDIMM	4x2GB	No	SATA		1x1TB 3.5" SATA	Media	DVD±RW	1xQuadro 2000	Global	No	Pro 64
0606-17U	E5-1620	1333MHz UDIMM	2x4GB	No	SATA	1	2x500GB 3.5" SATA	Media	DVD±RW	1xQuadro 400	Global	No	Pro 64
0606-18U	E5-1620	1333MHz UDIMM	3x4GB	No	SATA	1	2x500GB 3.5" SATA	Media	DVD±RW	1xQuadro 600	1394 Global	No	Pro 64

• Part of the Global Models Plus (GMP) program with limited onsite service 3-year limited warranty

	 Part of the Global Models Plus (GMP) program with limited onsite service 	3-year limited warranty
Processor	Intel® Xeon® E5-1620 processor (4C/8T, 3.6GHz, 10MB), Turbo Boost 2.0 (up to 3.8GHz), 4-channel capable DDR3 memory controller (up to 1600MHz) Intel Xeon E5-1650 processor (6C/12T, 3.2GHz, 12MB), Turbo Boost 2.0 (up to 3.8GHz), 4-channel capable DDR3 memory controller (up to 1600MHz) Intel Xeon E5-2620 processor (6C/12T, 2.0GHz, 15MB, 7.2 GT/s QPI x2), Turbo Boost 2.0 (up to 2.5GHz), 4-channel capable DDR3 memory controller (up to 1333MHz)	- Raven black color; metal case - 6.9"W x 18.1"D x 18.8"H (with handle) - 175mm W x 460mm D x 478mm H - 38.5 lb (17.5kg) max configuration - 31-liter - Removable handle on top front - Toolless side cover removal - Toolless disk and optical drive removal
Implementation	One LGA2011 socket, supports up to one processor	Toolless adapter retention Illuminated front icons
Memory	UDIMM or RDIMM, ECC, DDR3, 4-channel capable, eight 240-pin DIMM sockets UDIMM: up to PC3-10600 1333MHz, 64GB max (8x8GB) RDIMM: up to PC3-12800 1600MHz, 128GB max (8x16GB)	Rack shelf support
Additional memory disclaimers	 Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs Mixing of RDIMM and UDIMM is not supported 	Bay 1-2: 5.25", 1.6" high, external, for optical Bay 3: 3.5", 1" high, external, for media reader
Graphics	Supports up to NVIDIA® Quadro® 5000 (see accessories sheet O-FOR) Some: NVIDIA Quadro 400, PCIe x16 adapter, 512MB, one DisplayPort™, one dual-link DVI-I, 32W Some: NVIDIA Quadro 600, PCIe x16 adapter, 1GB, one DisplayPort, one dual-link DVI-I, 40W Some: NVIDIA Quadro 2000, PCIe x16 adapter, 1GB, two DisplayPort, one dual-link DVI-I, 62W	Bay 4-6: 3.5", 1" high, internal, for disk Slot 1: full-length, full-height, PCle 3.0 x16* (near CPU) Slot 2: full-length, full-height, PCle 3.0 x16 (x4 electrical) Slot 3: full-length, full-height, PCle 3.0 x16* Slot 4: full-length, full-height, 32-bit PCl 2.3 Slot 5: half-length, full-height, PCle 2.0 x4
Media reader Optical Hard drive(s)	Media: 25-in-1 Media card reader, internal USB 2.0 Super Multi-Burner DL DVD±RW SATA 1.5Gb/s Drive 3.5" SATA: SATA 6.0Gb/s, 7200 rpm 2.5" SATA: SATA 6.0Gb/s, 10000 rpm 2.5" SAS: SAS 6.0Gb/s, 15000 rpm	* Adapters >75W use auxiliary power connector(s) from PSU SECURITY
Onboard SATA - AHCI	2.5" SSD: Solid State Drive (SSD), SATA 6.0Gb/s Four SATA Advanced Host Controller Interface (AHCI) connectors for opticals and hard drives, two SATA 6.0Gb/s connectors (red), two SATA 3.0Gb/s connectors (orange), RAID 0, 1 support via Intel C602 chipset	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
Onboard SATA/SAS - SCU	Three SATA or SAS Storage Controller Unit (SCU) connectors (blue) for hard drives SATA: Three SATA connectors for hard drives, SATA 3.0Gb/s, RAID 0, 1, 5 support via Intel C602 chipset SAS: Three SATA/SAS ⁴ connectors for hard drives, SATA 3.0Gb/s, SAS 3.0Gb/s, RAID 0, 1 support via Intel C602 chipset and SAS HDD Enablement Module (Upgrade ROM #1)	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
Discrete SATA/SAS adapter	9240: LSI® SAS 9240-8i, PCI Express® bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 5 support	USB 3.0 ports enable/disable concurrently Chassis intrusion switch on selected model(s)
Chipset	Intel C602 Chipset	Preloaded operating system ²⁰
Front ports Rear ports	Two USB 2.0, microphone (3.5mm), headphone (3.5mm) Eight USB 2.0, two USB 3.0 (blue ports), one serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in) 16U: PS/2 keyboard and mouse connectors via PS/2 rear I/O cable	Windows® 7 Professional 64 Preloaded applications® (only some listed) Rescue and Recovery® Norton® Internet Security (30 days of virus definitions)
IEEE 1394 adptr	No onboard 1394 ports; 1394 models: additional FireWire PCIe adapter, 1394a-2000, 400Mbps, two 6-pin ports on rear	Adobe® Reader® Adobe Flash® Player
Audio	High Definition (HD) Audio, Realtek® ALC662 codec	Microsoft® Office 2013 preloaded; purchase product key to activate
Speaker	Internal speaker for business audio	Corel® WinDVD® (DVD±RW model(s))
Ethernet Security chip	One onboard gigabit ethernet, Intel 82579 STMicroelectronics ST19WP18 Trusted Platform Module (TPM), TCG 1.2-compliant	Ulead® DVD MovieFactory® (DVD±RW model(s)) ISV certifications
Keyboard	Preferred Pro USB Keyboard (USB connector), 104-key, black	Please visit www.lenovo.com/support/ISV
Mouse Power supply	Optical Wheel Mouse (USB connector), black 610 watts with 120mm bottom-mounted variable speed fan, universal, Climate Savers® Computing Gold, 80 PLUS® Gold qualified	GREENGUARD® certified RoHS-compliant EPEAT™ Gold rating
Limited Warranty	3-year parts and labor, more Lenovo® services see S-TS sheet	Supports ThinkVantage® technologies
Intel AMT	Supports Intel Active Management Technology 7	More compatible accessories, please see O-FOR sheet

ThinkStation® S30 Accessories

Partial list of accessories supported on ThinkStation S	3 U	Security Kensington MicroSaver Cable Lock	73P258
Memory ⁵³		Kensington MicroSaver Cable Lock Kensington Twin Head Cable Lock	73P258 45K162
2GB PC3-10600 DDR3 ECC UDIMM54	43R2033	Lenovo Security Cable Lock	57Y430
4GB PC3-10600 DDR3 ECC UDIMM⁵⁴	57Y4138	USB Gemplus GemPC Smart Card Reader	41N304
BGB PC3-10600 DDR3 ECC UDIMM54	0A65718	•	4111304
IGB PC3-12800 DDR3 ECC RDIMM⁵4	0A65732	Connectivity	
BGB PC3-12800 DDR3 ECC RDIMM ⁵⁴	0A65733	10Gbps Ethernet X540-T2 Server Adapter by Intel	0C1949
More information on memory and processor configuration	, operation and		
imitation, please visit:	, I		
www.lenovo.com/support/thinkstationaccessories			
Optical		7	
DVD-ROM DL SATA1.5Gb/s 16X-48X Max ⁴	41N5618		
Lenovo® Super Multi-Burner SATA Drive	0A65618		
Blu-ray™ Burner SATA1.5Gb/s	45K1675		
Storage and removable storage			
500GB SATA 3.0Gb/s Disk (7200 rpm)	43R1990		
ITB SATA 3.0Gb/s Disk (7200 rpm)	45J7918		
450GB SAS 3.0Gb/s Disk (15000 rpm) ⁶⁸	43N3424		
180GB Solid State Drive	0B47308		
	02.7.000	_	
Keyboard	7005000		
Preferred Pro USB Keyboard	73P5220		
Enhanced Performance USB Keyboard	73P2620		
Lenovo USB Fingerprint Keyboard	73P4730		
enovo USB Smartcard Keyboard	51J0155		
JItraslim Plus Wireless Keyboard and Mouse ⁵²	0A34032		
More information at www.lenovo.com/support/keyboard	S		
Mouse			
enovo Optical Mouse (USB)	06P4069		
enovo ScrollPoint Mouse (USB, Optical)	31P7405		
Lenovo Laser Mouse (USB)	41U3074		
enovo Wireless Laser Mouse ⁵²	0A36188		
More information at www.lenovo.com/support/mice	0/100100		
		-	
Monitors - ThinkVision®			
L1711p 17" (VGA, DVI-D)	5047HB2		
_T1952p Wide 19" (VGA, DP, DVI-D) ⁶⁹	2448MB6		
_2250p Wide 22" (VGA, DVI-D)	2572HB6		
L2251x Wide 22" (VGA, DP)	2578HB6		
LT2252p Wide 22" (VGA, DP, DVI-D)69	2572MB6		
LT2452p Wide 24" (VGA, DP, DVI-D)69	4420MB2		
More information at www.lenovo.com/support/monitors			
Monitor accessories ⁴⁶			
Kensington® MicroSaver® Cable Lock	73P2582		
Kensington Twin Head Cable Lock	45K1620		
More information at www.lenovo.com/support/monitora			
		\dashv	
Graphics	45 17045		
DisplayPort™ to Single-link DVI-D Cable ⁵⁰	45J7915		
DisplayPort to DisplayPort Monitor Cable ⁵⁰	0A36537		
NVIDIA® NVS™ 300 512MB DMS59 ⁶⁵	0A36528		
NVIDIA NVS 310 512MB	0B47074		
NVIDIA NVS 510 2GB Graphics Card by Lenovo	0B47077		
NVIDIA Quadro 512MB 410	0B47075	<u></u>	
NVIDIA Quadro 1GB 600	0A36183	⁴⁶ Compatible on selected Lenovo and ThinkVision moni	tors.
NVIDIA Quadro 1GB 2000	57Y4479	⁵⁰ Attaches to selected DisplayPort graphics cards.	_
NVIDIA Quadro 1GB 2000D	0A36541	52 Wireless via 2.4GHz technology using a micro-size US	SB receive
NVIDIA Quadro 2GB 4000	57Y4480	⁵³ Mixing of UDIMM and RDIMM is not supported.	
NVIDIA Quadro K600 1GB Graphics Card by Lenovo	0B47394	54 Actual memory operating speed depend on processor controller speed, installed memory speed, and quantil	memory
NVIDIA Quadro K2000 2GB Graphics Card by Lenovo	0B47392	controller speed, installed memory speed, and quantit DIMMs.	y or memo
NVIDIA Quadro K4000 3GB Graphics Card by Lenovo	0B47393	65 Contains DMS59 to dual-DVI cable and DMS59 to dual	al-VGA
NVIDIA Quadro K5000 4GB Graphics Card by Lenovo	0B47081	cable.	• जत
More information at www.lenovo.com/support/graphica		⁶⁹ DisplayPort cable is not included; use optional	
		DisplayPort to DisplayPort Monitor Cable (0A36537).	
		For more information on accessories: www.lenovo.com/accessories	
		Purchase Lenovo accessories	
		www.lenovo.com/support/accessories	
		Product specifications on Lenovo Support	
		www.lenovo.com/accessoriesguide	roohc-
		Option Compatibility Matrix (OCM) and accessory be	ochules
		www.lenovoquicknick.com	

www.lenovoquickpick.com An Options Compatibility Configurator for Lenovo systems

ThinkStation



Lenovo ThinkStation D30



Lenovo ThinkStation D30



Lenovo ThinkStation D30



Lenovo ThinkStation D30



Lenovo ThinkStation D30



Lenovo ThinkStation D30

ThinkStation® D30 (4229) - TopSeller

Type- model	Processor(s)	•	Memory S	Discrete SATA/SAS adapter	Onboard SATA/SAS	Pre-conf RAID	Hard drive(s)	Media reader	SATA optical	Graphics and GPU Computing	1394 adptr	Global	Chassis intrusion switch	Win7 preload
4229-321	J 1xE5-2603	1333MHz UDIMM	1x4GB	No	SATAx4	No	1x500GB 3.5" SATA	Media	DVD±RW	1xQuadro 400	1394	No	Switch	Pro 64
4229-331	J 1xE5-2603	1333MHz UDIMM	1x4GB	No	SATAx4	No	1x500GB 3.5" SATA	Media	DVD±RW	1xQuadro 600	1394	No	Switch	Pro 64
4229-341	J 1xE5-2609	1333MHz UDIMM	1x4GB	No	SATAx4	No	1x500GB 3.5" SATA	Media	DVD±RW	1xQuadro 600	1394	No	Switch	Pro 64

Processor	Intel® Xeon® E5-2603 processor (4C/4T, 1.8GHz, 10MB, 6.4 GT/s QPI x2), 4-channel DDR3 memory controller (up to 1066MHz) Intel Xeon E5-2609 processor (4C/4T, 2.4GHz, 10MB, 6.4 GT/s QPI x2), 4-channel DDR3 memory controller (up to 1066MHz)	• 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
Implementation	Two LGA2011 sockets, supports up to two processors	1 optical • 60.6 lb (27.5kg) max configuration • 55-liter
Memory	UDIMM or RDIMM, ECC, DDR3, 8-channel capable (4-channel per processor), sixteen 240-pin DIMM sockets UDIMM: up to PC3-10600 1333MHz, 128GB max (16x8GB) RDIMM: up to PC3-12800 1600MHz, 256GB max (16x16GB)	2 optical 3 optical
Additional memory disclaimers	 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 (e.g. Windows 7 Professional 64 supports up to 192GB) 	Bulliuminated front icons Rack shelf support or optional rail kit
Graphics	Supports up to two NVIDIA® Quadro® 5000, NVIDIA SLI® Technology support (see accessory sheet O-HOL) Some: NVIDIA Quadro 400, PCle x16 adapter, 512MB, one DisplayPort™, one dual-link DVI-I, 32W Some: NVIDIA Quadro 600, PCle x16 adapter, 1GB, one DisplayPort, one dual-link DVI-I, 40W	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 disk* * Bay 5 is available on models with the SATA or SAS Hard Disk Drive enablement module installed.
Media reader Optical Hard drive(s)	Media: 25-in-1 Media card reader, internal USB 2.0 Super Multi-Burner DL DVD±RW SATA 1.5Gb/s Drive 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	Slot 1: half-length, full-height, PCle 3.0 x16 (x4 elec, near CPU) Slot 2: full-length, full-height, PCle 3.0 x16** Slot 3: full-length, full-height, 32-bit PCl 2.3 Slot 4: full-length, full-height, PCle 3.0 x16** Slot 5: full-length, full-height, PCle 2.0 x4 Slot 6: half-length, full-height, 32-bit PCl 2.3
Onboard SATA - AHCI	Four SATA Advanced Host Controller Interface (AHCI) connectors for opticals and hard drives, two SATA 6.0Gb/s connectors (red), two SATA 3.0Gb/s connectors (orange), RAID 0, 1, 5, 10 support via Intel C602 Chipset	** Adapters >75W use auxiliary power connector(s) from PSU
Onboard SATA/SAS - SCU	Supports up to five SATA or SAS Storage Controller Unit (SCU) connectors (blue) for hard drives SATAx4: Four SATA connectors for hard drives, SATA 3.0Gb/s, RAID 0, 1, 5, 10 support via Intel C602 Chipset SATAx5: Five SATA connectors for hard drives, SATA 3.0Gb/s, RAID 0, 1, 5, 10 support via Intel C602 Chipset and SATA HDD Enablement Module (Upgrade ROM #9) SAS: Five SATA/SAS ⁴ connectors for hard drives, SATA 3.0Gb/s, SAS 3.0Gb/s, RAID 0, 1, 10 support via Intel C602 Chipset and SAS HDD Enablement Module (Upgrade ROM #5)	SECURITY • 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)
Discrete SATA/SAS adapter	LSI: LSI® SAS 9240-8i, PCI Express® bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 5, 10 support	Power-on password Administrator password Boot sequence control
Chipset	Intel C602 Chipset	Boot without keyboard, mouse, diskette
Front ports Rear ports IEEE 1394 adptr	Two USB 2.0, microphone (3.5mm), headphone (3.5mm) Eight USB 2.0, two USB 3.0 (blue ports), serial (9-pin), two ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in) No onboard 1394 ports;	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)
Audio Speaker Ethernet Security chip Keyboard Mouse Power supply	1394 models: additional FireWire PCIe adapter, 1394a-2000, 400Mbps, one 6-pin port on rear, one 6-pin port on front High Definition (HD) Audio, Realtek® ALC662 codec Internal speaker for business audio Dual onboard gigabit ethernet, Intel 82579 and 82574 Nuvoton NPCT421L for TPM function, TCG 1.2-compliant Preferred Pro USB Keyboard (USB connector), 104-key, black Optical Wheel Mouse (USB connector), black 1120 watts with 120mm bottom-mounted variable speed fan, universal,	Preloaded operating system ²⁰ Windows® 7 Professional 64 Preloaded applications ⁵ (only some listed) Rescue and Recovery® Norton® Internet Security (30 days of virus definitions) Adobe® Reader® Adobe Flash® Player Microsoft® Office 2013 preloaded; purchase product key to activate
	Climate Savers® Computing Gold, 80 PLUS® Gold qualified	Corel® WinDVD® (DVD±RW model(s)) Ulead® DVD MovieFactory® (DVD±RW model(s))
Limited Warranty ¹ Intel AMT	3-year parts and labor; more Lenovo® services see on S-TS sheet Supports Intel Active Management Technology 7	ISV certifications Please visit www.lenovo.com/support/ISV
		GREENGUARD® certified RoHS-compliant EPEAT™ Gold rating
		Supports ThinkVantage® technologies
		More compatible accessories, please see O-HOL sheet

ThinkStation® D30 (4229) - TopSeller - II

Type-		•			Onboard SATA/SAS I			Media	SATA	Graphics and GPU	1394		Chassis intrusion	
model	Processor(s)	(MHz/type)	DIMMs	adapter	-SCU	RAID	Hard drive(s)	reader	optical	Computing	adptr	Global	switch	preload
4229-35L	1xE5-2609	1333MHz UDIMM	1x4GB	No	SATAx4	No	1x500GB 3.5" SATA	Media	DVD±RW	1xQuadro 2000D	1394	No	Switch	Pro 64
4229-37L	1xE5-2609	1333MHz UDIMM	1x4GB	No	SATAx4	No	1x500GB 3.5" SATA	Media	$DVD \pm RW$	1xQuadro 4000	1394	No	Switch	Pro 64
4229-38L	J 1xE5-2620	1333MHz UDIMM	1x4GB	No	SAS	No	1x300GB 2.5" SAS	Media	$DVD \pm RW$	1xQuadro 4000	1394	No	Switch	Pro 64

I	Intel® Xeon® E5-2609 processor (4C/4T, 2.4GHz, 10MB, 6.4 GT/s QPI x2), 4-channel DDR3 memory controller (up to 1066MHz)	Raven black color; metal case			
	Intel Xeon E5-2620 processor (6C/12T, 2.0GHz, 15MB, 7.2 GT/s QPI x2), Turbo Boost 2.0 (up to 2.5GHz), 4-channel DDR3 memory controller (up to 1333MHz)	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			
Implementation 7	Two LGA2011 sockets, supports up to two processors	Optical O			
Additional memory disclaimers	UDIMM or RDIMM, ECC, DDR3, 8-channel capable (4-channel per processor), sixteen 240-pin DIMM sockets UDIMM: up to PC3-10600 1333MHz, 128GB max (16x8GB) RDIMM: up to PC3-12800 1600MHz, 256GB max (16x16GB) • 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	3 optical Toolless side cover removal			
	Maximum memory capacity is also limited by operating system (e.g. Windows 7 Professional 64 supports up to 192GB)	Bay 1-3: 5.25", 1.6" high, external, for optical			
	Supports up to two NVIDIA® Quadro® 5000, NVIDIA SLI® Technology support (see accessory sheet O-HOL) Some: NVIDIA Quadro 2000D, PCIe x16 adapter, 1GB, two dual-link DVI-I, 62W Some: NVIDIA Quadro 4000, PCIe x16 adapter, 2GB, two DisplayPort™, one dual-link DVI-I, one stereo, 142W	 Bay 4: 3.5", 1" high, external, for media reader Bay 5-9: 3.5", 1" high, internal, for disk* * Bay 5 is available on models with the SATA or SAS Hard Disk Drive enablement module installed. Slot 1: half-length, full-height, PCle 3.0 x16 (x4 elec, near CPl Slot 2: full-length, full-height, PCle 3.0 x16** Slot 3: full-length, full-height, 32-bit PCl 2.3 Slot 4: full-length, full-height, PCle 3.0 x16** Slot 5: full-length, full-height, PCle 2.0 x4 Slot 6: half-length, full-height, 32-bit PCl 2.3 ** Adapters >75W use auxiliary power connector(s) 			
Optical S Hard drive(s) S	Media: 25-in-1 Media card reader, internal USB 2.0 Super Multi-Burner DL DVD±RW SATA 1.5Gb/s Drive 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				
- AHCI (Four SATA Advanced Host Controller Interface (AHCI) connectors for opticals and hard drives, two SATA 6.0Gb/s connectors (red), two SATA 3.0Gb/s connectors (orange), RAID 0, 1, 5, 10 support via Intel C602 Chipset	from PSU			
- SCU (Supports up to five SATA or SAS Storage Controller Unit (SCU) connectors (blue) for hard drives SATA 4: Four SATA connectors for hard drives, SATA 3.0Gb/s, RAID 0, 1, 5, 10 support via Intel C602 Chipset SATA 5: Five SATA connectors for hard drives, SATA 3.0Gb/s, RAID 0, 1, 5, 10 support via Intel C602 Chipset and SATA HDD Enablement Module (Upgrade ROM #9) SAS: Five SATA/SAS ⁴ connectors for hard drives, SATA 3.0Gb/s, SAS 3.0Gb/s, RAID 0, 1, 10 support via Intel C602 Chipset and SAS HDD Enablement Module (Upgrade ROM #5)	SECURITY • 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 password			
Discrete SATA/SAS I adapter	LSI: LSI [®] SAS 9240-8i, PCI Express [®] bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 5, 10 support	 Administrator password Boot sequence control Boot without keyboard, mouse, diskette 			
Chipset I	Intel C602 Chipset	Serial port I/O enable/disable USB 2.0 ports enable/disable individually			
Rear ports E	Two USB 2.0, microphone (3.5mm), headphone (3.5mm) Eight USB 2.0, two USB 3.0 (blue ports), serial (9-pin), two ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in)	USB 3.0 ports enable/disable concurrently Chassis intrusion switch on selected model(s)			
IEEE 1394 adptr 1	No onboard 1394 ports; 1394 models: additional FireWire PCle adapter, 1394a-2000, 400Mbps, one 6-pin port on rear, one 6-pin port on front	Preloaded operating system ²⁰ Windows® 7 Professional 64 Preloaded applications ⁵ (only some listed)			
Speaker I Ethernet I	High Definition (HD) Audio, Realtek® ALC662 codec Internal speaker for business audio Dual onboard gigabit ethernet, Intel 82579 and 82574	 Rescue and Recovery® Norton® Internet Security (30 days of virus definitions) Adobe® Reader® 			
	Nuvoton NPCT421L for TPM function, TCG 1.2-compliant	 Adobe Flash® Player Microsoft® Office 2013 preloaded; 			
Mouse Composition Power supply	Preferred Pro USB Keyboard (USB connector), 104-key, black Optical Wheel Mouse (USB connector), black 1120 watts with 120mm bottom-mounted variable speed fan, universal,	purchase product key to activate Corel® WinDVD® (DVD±RW model(s)) Ulead® DVD MovieFactory® (DVD±RW model(s))			
	Climate Savers® Computing Gold, 80 PLUS® Gold qualified 3-year parts and labor; more Lenovo® services see on S-TS sheet	ISV certifications			
	, , , , , , , , , , , , , , , , , , , ,	Please visit www.lenovo.com/support/ISV			
Intel AMT	Supports Intel Active Management Technology 7	GREENGUARD® certified RoHS-compliant EPEAT™ Gold rating			
		LFLAT Gold fatting			
		Supports ThinkVantage® technologies			

ThinkStation® D30 (4223)

Type-		Memory	Memory		Onboard SATA/SAS I	Pre-conf		Media	SATA	Graphics and GPU	1394		Chassis intrusion	
model	Processor(s)	(MHz/type)	DIMMs	adapter	-SCU	RAID	Hard drive(s)	reader	optical	Computing	adptr	Global	switch	preload
4223-54U	1xE5-2603	1333MHz UDIMM	1x4GB	No	SATAx4	No	1x500GB 3.5" SATA	Media	DVD±RW	1xNVS 300	1394	No	Switch	Pro 64
4223-55U	1xE5-2603	1333MHz UDIMM	1x4GB	No	SATAx4	No	1x500GB 3.5" SATA	Media	DVD±RW	1xQuadro 400	1394	No	Switch	Pro 64
4223-56U	1xE5-2609	1333MHz UDIMM	1x4GB	No	SATAx4	No	1x500GB 3.5" SATA	Media	DVD±RW	1xQuadro 400	1394	No	Switch	Pro 64
4223-57U	1xE5-2609	1333MHz UDIMM	1x4GB	No	SATAx4	No	1x500GB 3.5" SATA	Media	DVD±RW	1xQuadro 600	1394	No	Switch	Pro 64
4223-58U	1xE5-2609	1333MHz UDIMM	1x4GB	No	SATAx4	No	1x500GB 3.5" SATA	Media	DVD±RW	1xQuadro 2000D	1394	No	Switch	Pro 64

Intel® Xeon* E5-2603 processor (#C/ET, 1,601/E, 10MB, 6.4 GT/s QP1/2), 4-channel DD168 memory controller (up to 1068MHz) intel Xeon E5-2609 processor (#C/ET, 2,461/E, 10MB, 6.4 GT/s QP1/2), 4-channel DD168 memory controller (up to 1068MHz) intel Xeon E5-2609 processor (#C/ET, 2,461/E, 10MB, 6.4 GT/s QP1/2), 4-channel DD168 memory controller (up to 1068MHz) intel Xeon E5-2609 processor (#C/ET, 2,461/E, 10MB, 6.4 GT/s QP1/2), 4-channel DD168 memory controller (up to 1068MHz) intel Xeon E5-2609 processor (#C/ET, 2,461/E, 10MB, 6.4 GT/s QP1/2), 4-channel DD168 memory controller (#C/ET, 2,601/ET, 2,601			
Implementation Wemony Unifility or Ripfilms (ECC, Dark), 8-channel per processor), sixteen 240-pin DiMM sockets DiMM by the point of Cast State State of Cast State State of Cast State S	Processor	6.4 GT/s QPI x2), 4-channel DDR3 memory controller (up to 1066MHz) Intel Xeon E5-2609 processor (4C/4T, 2.4GHz, 10MB, 6.4 GT/s QPI x2),	Raven black color; metal case 8.3"W x 23.7"D x 19.1"H (with handle)
Additional memory Unifum C FDIMM. ECC, DDR3, 8-channel capable (4-channel per processor), staten 240-jn DIMM sockets Unifum. to p C3-1060 1333MHz, 128GB max (16x8GB) FDIMM. to p C3-1060 1333MHz, 128GB max (16x8GB) TO Controller speed, installed memory speed, and quantity of memory DIMMs Controller speed, installed memory speed, and quantity of memory DIMMs Controller speed, installed memory speed, and quantity of memory DIMMs Controller speed, installed memory speed, speed speed installed memory speed, speed installed speed installed speed installed speed installed speed install	Implementation		1 optical • 60.6 lb (27.5kg) max configuration
disclaimers controller speech, installed memory speech and quantity of memory DMMs Over eight DMMs requires dealy processors Moring of PDMM and UDMM is red supported by a long processors Moring of PDMM and UDMM is red supported by a long processor in the pr	Memory	UDIMM or RDIMM, ECC, DDR3, 8-channel capable (4-channel per processor), sixteen 240-pin DIMM sockets UDIMM: up to PC3-10600 1333MHz, 128GB max (16x8GB) RDIMM: up to PC3-12800 1600MHz, 256GB max (16x16GB)	Removable handle on top front Toolless side cover removal Toolless disk and optical drive removal Toolless adapter retention
NVIDIA SLI* Technology support (see accessory sheet O-HOL) Some: NVIDIA Quadro NVS 300, PCle x16 adapter, 152MB, DMSS to dual single-link DVI-I, 17.5W Some: NVIDIA Quadro 1904, 17.5W Some: NVIDIA Quadro 600, PCle x16 adapter, 1GB, one bipslayPort no dual-link DVI-I, 12W Some: NVIDIA Quadro 600, PCle x16 adapter, 1GB, one bipslayPort no dual-link DVI-I, 40W Some: NVIDIA Quadro 600, PCle x16 adapter, 1GB, one bipslayPort no dual-link DVI-I, 40W Some: NVIDIA Quadro 600, PCle x16 adapter, 1GB, would-link DVI-I, 82W Media reader Optical Super Multi-Burner ID. DVS-RW SATA 1.5Gb/s Drive 3.3° SATA: Super Multi-Burner ID. DVS-RW SATA 1.5Gb/s Drive 3.3° SATA: SATA 6.0Gb/s, 7200 rpm 2.5° SSD: Solid State Drive (SSD), SATA 6.0Gb/s Onboard SATA -AHCI Onboard SATA -AHCI Onboard SATA-SAS Supports up to five SATA 6.0Gb/s SATAX-SF (see SATA connectors for hard drives, SATA 3.0Gb/s -SCU Side Support valid to C602 Chipset ARID 0. 1, 5, 10 support via Intel C602 Chipset and SATA HDD Enablement Module (Upgrade ROM #9) SATA EVIEW SATA-SAS connectors for hard drives, SATA 3.0Gb/s ARID 0. 1, 10 support via Intel C602 Chipset and SATA HDD Enablement Module (Upgrade ROM #9) SATA EVIEW SATA-SAS connectors for hard drives, SATA 3.0Gb/s connectors (readed reader) Non-board 1394 ports; 1394 models additional FireWire PCle adapter, 1394-acount (Ru-4s) Front ports Front		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	5 disk* 6 disk 7 disk 8 disk
Media: 25-in-1 Media card reader, internal USB 2.0 Optical Optical Super Multi-Burner DL DVD-RW SATA 1.5 Gb/s Drive 3.5" SATA: SATA 6.0Gb/s 1,0000 rpm 3.5" SATA: 2.5" SATA: 3.5" SAS: 3.5"	Graphics	Supports up to two NVIDIA® Quadro® 5000, NVIDIA SLI® Technology support (see accessory sheet O-HOL) Some: NVIDIA Quadro NVS 300, PCle x16 adapter, 512MB, DMS59 to dual single-link DVI-I, 17.5W Some: NVIDIA Quadro 400, PCle x16 adapter, 512MB, one DisplayPort™, one dual-link DVI-I, 32W Some: NVIDIA Quadro 600, PCle x16 adapter, 1GB, one DisplayPort, one dual-link DVI-I, 40W Some: NVIDIA Quadro 2000D, PCle x16 adapter, 1GB,	Bay 4: 3.5", 1" high, external, for media reader Bay 5-9: 3.5", 1" high, internal, for disk* * Bay 5 is available on models with the SATA or SAS Hard Disk 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
opticals and hard drives, two SATA 6.0Gb/s connectors (red), two SATA 3.0Gb/s connectors (orange), RAID 0, 1, 5, 10 support via Intel C602 Chipset Sat7As/AS Supports up to five SATA or SAS Storage Controller Unit (SCU) connectors (blue) for hard drives, SATA 3.0Gb/s, RAID 0, 1, 5, 10 support via Intel C602 Chipset SATAx/5: Five SATA connectors for hard drives, SATA 3.0Gb/s, RAID 0, 1, 5, 10 support via Intel C602 Chipset ARID 0, 1, 5, 10 support via Intel C602 Chipset ARID 0, 1, 5, 10 support via Intel C602 Chipset ARID 0, 1, 5, 10 support via Intel C602 Chipset ARID 0, 1, 5, 10 support via Intel C602 Chipset ARID 0, 1, 5, 10 support via Intel C602 Chipset ARID 0, 1, 10 support via Intel C602 Chipset ARID 0, 1, 10 support via Intel C602 Chipset ARID 0, 1, 10 support via Intel C602 Chipset ARID 0, 1, 10 support via Intel C602 Chipset ARID 0, 1, 10 support via Intel C602 Chipset ARID 0, 1, 10 support via Intel C602 Chipset ARID 0, 1, 10 support via Intel C602 Chipset ARID 0, 1, 5, 10 support via Intel C602 Chipset ARID 0, 1, 5, 10 support via Intel C602 Chipset ARID 0, 1, 5, 10 support via Intel C602 Chipset ARID 0, 1, 10 support via Intel C602 Chipset ARID 0, 1, 10 support via Intel C602 Chipset ARID 0, 1, 10 support via Intel C602 Chipset ARID 0, 1, 10 support via Intel C602 Chipset ARID 0, 1, 10 support via Intel C602 Chipset ARID 0, 1, 10 support via Intel C602 Chipset ARID 0, 1, 10 support via Intel C602 Chipset ARID 0, 1, 5, 10 support via Intel C602 Chipset ARID 0, 1, 10 support via Intel C602 Chipset ARID 0, 1, 10 support via Intel C602 Chipset ARID 0, 1, 10 support via Intel C602 Chipset ARID 0, 1, 10 support via Intel C602 Chipset ARID 0, 1, 10 support via Intel C602 Chipset BOO till via Veyboard, mouse, diskette Serial port I/O enable/disable individually USB 2.0 ports enable/disable concurrently Wisb 2.0 ports enable/disable concurrently W	Optical	Media: 25-in-1 Media card reader, internal USB 2.0 Super Multi-Burner DL DVD±RW SATA 1.5Gb/s Drive 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	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)
-SCU (blue) for hard drives SATA x4: Four SATA connectors for hard drives, SATA 3.0Gb/s, RAID 0, 1, 5, 10 support via Intel C602 Chipset BAID 0, 1, 5, 10 support via Intel C602 Chipset BAID 0, 1, 5, 10 support via Intel C602 Chipset BAID 0, 1, 5, 10 support via Intel C602 Chipset BAID 0, 10 support support via Intel C602 Chipset BAID 0, 10 support support via Viva Viva Viva Viva Viva Viva Viva		opticals and hard drives, two SATA 6.0Gb/s connectors (red), two SATA 3.0Gb/s connectors (orange),	
Discrete SATA/SAS dagater SATA 6.0Gb/s, SAS 9.240-8i, PCI Express* bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 5, 10 support Chipset Intel C602 Chipset Front ports Rear ports Eight USB 2.0, microphone (3.5mm), headphone (3.5mm) Rear ports Hiese analog audio ports (line-in, line-out, mic-in) No onboard 1394 ports; 1394 models: additional FireWire PCIe adapter, 1394a-2000, 400Mbps, one 6-pin port on rear, one 6-pin port on front Audio Speaker Ethernet Linternal speaker for business audio Security chip Nuvoton NPCT421L for TPM function, TCG 1.2-compliant Keyboard Mouse Power supply Preloaded operating system ²⁰ Windows* 7 Professional 64 Preloaded applications* (only some listed) Nonboard 1394 ports; Norton* Internet Security (30 days of virus definitions) Adobe* Reader* Adobe Flash* Player Adobe Flash* Player Adobe Flash* Player Nicrosoft* Office 2013 preloaded; purchase product key to activate Dual onboard gigabit ethernet, Intel 82579 and 82574 Security chip Nuvoton NPCT421L for TPM function, TCG 1.2-compliant Keyboard Preferred Pro USB Keyboard (USB connector), 104-key, black 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 Limited Warranty¹ Supports Intel Active Management Technology 7 Supports ThinkVantage* technologies		(blue) for hard drives SATAx4: Four SATA connectors for hard drives, SATA 3.0Gb/s, RAID 0, 1, 5, 10 support via Intel C602 Chipset SATAx5: Five SATA connectors for hard drives, SATA 3.0Gb/s, RAID 0, 1, 5, 10 support via Intel C602 Chipset and SATA HDD Enablement Module (Upgrade ROM #9) SAS: Five SATA/SAS4 connectors for hard drives, SATA 3.0Gb/s, SAS 3.0Gb/s, RAID 0, 1, 10 support via Intel C602 Chipset	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
Front ports Rear ports Rear ports Rear ports Fight USB 2.0, microphone (3.5mm), headphone (3.5mm) Fight USB 2.0, two USB 3.0 (blue ports), serial (9-pin), two ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in) No onboard 1394 ports; 1394 models: additional FireWire PCle adapter, 1394a-2000, 400Mbps, one 6-pin port on rear, one 6-pin port on front Audio Audio High Definition (HD) Audio, Realtek® ALC662 codec Internal speaker for business audio Ethernet Dual onboard gigabit ethernet, Intel 82579 and 82574 Security chip Nuvoton NPCT421L for TPM function, TCG 1.2-compliant Keyboard Mouse Power supply Preforded applications No onbs 3.0 (blue ports), serial (9-pin), two ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in) No onboard 1394 ports; 1394 models: additional FireWire PCle adapter, 1394a-2000, 400Mbps, one 6-pin port on front Adobe® Reader® Norton® Internet Security (30 days of virus definitions) Adobe® Reader® Norton® Internet Security (30 days of virus definitions) Adobe® Reader® Adobe Flash® Player Microsoft® Office 2013 preloaded; purchase product key to activate Corel® WinDVD® (DVD±RW model(s)) Ulead® DVD MovieFactory® (DVD±RW model(s)) Ulead® DVD MovieFactory® (DVD±RW model(s)) Ulead® DVD MovieFactory® (DVD±RW model(s)) ISV certifications Please visit www.lenovo.com/support/ISV GREENGUARD® certified RoHS-compliant EPEAT™ Gold rating Supports ThinkVantage® technologies	adapter	SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 5, 10 support	USB 3.0 ports enable/disable concurrently
Fight USB 2.0, two USB 3.0 (blue ports), serial (9-pin), two ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in) REEE 1394 adptr		·	
Notional Tisey Dotts: 1394 models: additional FireWire PCle 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 Ethernet Dual onboard gigabit ethernet, Intel 82579 and 82574 Security chip Nuvoton NPCT421L 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 120 watts with 120mm bottom-mounted variable speed fan, universal, Climate Savers® Computing Gold, 80 PLUS® Gold qualified Limited Warranty¹ 3-year parts and labor; more Lenovo® services see on S-TS sheet Intel AMT Supports Intel Active Management Technology 7 Norton® Internet Security (30 days of virus definitions) Adobe® Reader® Adobe® Idea Rea	Rear ports	Eight USB 2.0, two USB 3.0 (blue ports), serial (9-pin), two ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in)	Preloaded applications ⁵ (only some listed)
Audio Speaker Speaker Internal speaker for business audio Dual onboard gigabit ethernet, Intel 82579 and 82574 Security chip Nuvoton NPCT421L for TPM function, TCG 1.2-compliant Keyboard Mouse Power supply Intel Adm Supports Intel Active Management Technology 7 Pigh Definition (HD) Audio, Realtek® ALC662 codec Internal speaker for business audio Dual onboard gigabit ethernet, Intel 82579 and 82574 Security chip Nuvoton NPCT421L for TPM function, TCG 1.2-compliant Preferred Pro USB Keyboard (USB connector), 104-key, black Optical Wheel Mouse (USB connector), black Power supply Climate Savers® Computing Gold, 80 PLUS® Gold qualified Limited Warranty Supports Intel Active Management Technology 7 Supports ThinkVantage® technologies	IEEE 1394 adptr	1394 models: additional FireWire PCIe adapter, 1394a-2000, 400Mbps,	Norton® Internet Security (30 days of virus definitions) Adobe® Reader®
Mouse Optical Wheel Mouse (USB connector), black Power supply 120 watts with 120mm bottom-mounted variable speed fan, universal, Climate Savers® Computing Gold, 80 PLUS® Gold qualified Limited Warranty¹ 3-year parts and labor; more Lenovo® services see on S-TS sheet Intel AMT Supports Intel Active Management Technology 7 Please visit www.lenovo.com/support/ISV GREENGUARD® certified RoHS-compliant EPEAT™ Gold rating Supports ThinkVantage® technologies	Speaker Ethernet	High Definition (HD) Audio, Realtek® ALC662 codec Internal speaker for business audio Dual onboard gigabit ethernet, Intel 82579 and 82574	Microsoft® Office 2013 preloaded; purchase product key to activate Corel® WinDVD® (DVD±RW model(s))
Climate Savers® Computing Gold, 80 PLUS® Gold qualified Limited Warranty¹ 3-year parts and labor; more Lenovo® services see on S-TS sheet Intel AMT Supports Intel Active Management Technology 7 Supports ThinkVantage® technologies	Mouse	Optical Wheel Mouse (USB connector), black	
Limited Warranty¹ 3-year parts and labor; more Lenovo® services see on S-TS sheet RoHS-compliant EPEAT™ Gold rating Intel AMT Supports Intel Active Management Technology 7 Supports ThinkVantage® technologies	rower suppry		GREENGUARD® certified
Supports ThinkVantage® technologies	Limited Warranty ¹		RoHS-compliant
More compatible accessories, please see O-HOL sheet	Intel AMT	Supports Intel Active Management Technology 7	
			More compatible accessories, please see O-HOL sheet

ThinkStation® D30 (4223) - II

Type-		Memory	Memory		Onboard SATA/SAS	Pre-conf		Media	SATA	Graphics	1394	Chassis intrusion	Win7
model	Processor(s)	(MHz/type)	DIMMs	adapter	-SCU	RAID	Hard drive(s)	reader	optical	adapter(s)	adptr Global	switch	preload
4223-59U	1xE5-2620	1333MHz UDIMM	1x4GB	No	SATAx4	No	1x500GB 3.5" SATA	Media	DVD±RW	1xQuadro 2000D	1394 Global	Switch	Pro 64
4223-61U	1xE5-2620	1333MHz UDIMM	1x4GB	No	SATAx4	No	1x500GB 3.5" SATA	Media	DVD±RW	1xQuadro 4000	1394	Switch	Pro 64
4223-62U	1xE5-2620	1333MHz UDIMM	1x4GB	No	SATAx4	No	1x500GB 3.5" SATA	Media	DVD±RW	1xQuadro 600	1394	Switch	Pro 64
4223-66U	1xE5-2620	1333MHz UDIMM	1x4GB	No	SAS	No	1x300GB 2.5" SAS	Media	DVD±RW	1xQuadro 2000D	1394	Switch	Pro 64
4223-68U	1xE5-2630	1333MHz UDIMM	1x4GB	No	SATAx4	No	1x500GB 3.5" SATA	Media	DVD±RW	1xQuadro 2000D	1394	Switch	Pro 64
4223-69U	1xE5-2630	1333MHz UDIMM	2x4GB	No	SAS	No	1x300GB 2.5" SAS	Media	DVD±RW	1xQuadro 4000	1394 Global	Switch	Pro 64

Processor	Intel® Xeon® E5-2620 processor (6C/12T, 2.0GHz, 15MB, 7.2 GT/s QPI x2), Turbo Boost 2.0 (up to 2.5GHz), 4-channel DDR3 memory controller (up to 1333MHz) Intel Xeon E5-2630 processor (6C/12T, 2.3GHz, 15MB, 7.2 GT/s QPI x2), Turbo Boost 2.0 (up to 2.8GHz), 4-channel DDR3 memory controller (up to 1333MHz)	• 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		
Implementation	Two LGA2011 sockets, supports up to two processors	Removable handle on top front Toolless side cover removal		
Memory	UDIMM or RDIMM, ECC, DDR3, 8-channel capable (4-channel per processor), sixteen 240-pin DIMM sockets UDIMM: up to PC3-10600 1333MHz, 128GB max (16x8GB) RDIMM: up to PC3-12800 1600MHz, 256GB max (16x16GB)	Toolless side cover removal Toolless disk and optical drive removal Toolless adapter retention Illuminated front icons Rack shelf support or optional rail kit		
Additional memory disclaimers	 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 (e.g. Windows 7 Professional 64 supports up to 192GB) 	Bay 1-3: 5.25", 1.6" high, external, for optical		
Graphics	Supports up to two NVIDIA® Quadro® 5000, NVIDIA SLI® Technology support (see accessory sheet O-HOL) Some: NVIDIA Quadro 600, PCle x16 adapter, 1GB, one DisplayPort™, one dual-link DVI-I, 40W Some: NVIDIA Quadro 2000D, PCle x16 adapter, 1GB, two dual-link DVI-I, 62W Some: NVIDIA Quadro 4000, PCle x16 adapter, 2GB,	Bay 4: 3.5", 1" high, external, for media reader Bay 5-9: 3.5", 1" high, internal, for disk* * Bay 5 is available on models with the SATA or SAS Hard Disk Drive enablement module installed. Slot 1: half-length, full-height, PCle 3.0 x16 (x4 elec, near CPU) Slot 2: full-length, full-height, PCle 3.0 x16**		
	two DisplayPort, one dual-link DVI-I, one stereo, 142W	Slot 3: full-length, full-height, 32-bit PCI 2.3 Slot 4: full-length, full-height, PCIe 3.0 x16**		
Media reader	Media: 25-in-1 Media card reader, internal USB 2.0	Slot 5: full-length, full-height, PCIe 2.0 x4		
Optical Hard drive(s)	Super Multi-Burner DL DVD±RW SATA 1.5Gb/s Drive 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	Slot 6: half-length, full-height, 32-bit PCI 2.3 ** Adapters >75W use auxiliary power connector(s) from PSU		
Onboard SATA - AHCI	Four SATA Advanced Host Controller Interface (AHCI) connectors for opticals and hard drives, two SATA 6.0Gb/s connectors (red), two SATA 3.0Gb/s connectors (orange), RAID 0, 1, 5, 10 support via Intel C602 Chipset	SECURITY • Security chip (see information on left) • Side cover lock (ships with two identical keys) • Padlock loop (in rear for opt padlock;		
Onboard SATA/SAS - SCU	Supports up to five SATA or SAS Storage Controller Unit (SCU) connectors (blue) for hard drives SATAx4: Four SATA connectors for hard drives, SATA 3.0Gb/s, RAID 0, 1, 5, 10 support via Intel C602 Chipset SATAx5: Five SATA connectors for hard drives, SATA 3.0Gb/s, RAID 0, 1, 5, 10 support via Intel C602 Chipset and SATA HDD Enablement Module (Upgrade ROM #9) SAS: Five SATA/SAS ⁴ connectors for hard drives, SATA 3.0Gb/s, SAS 3.0Gb/s, RAID 0, 1, 10 support via Intel C602 Chipset and SAS HDD Enablement Module (Upgrade ROM #5)	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		
Discrete SATA/SAS adapter	LSI: LSI® SAS 9240-8i, PCI Express® bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 5, 10 support	Chassis intrusion switch on selected model(s) Preloaded operating system ²⁰		
Chipset	Intel C602 Chipset	Windows® 7 Professional 64		
Front ports	Two USB 2.0, microphone (3.5mm), headphone (3.5mm)	Preloaded applications ⁵ (only some listed)		
Rear ports	Eight USB 2.0, two USB 3.0 (blue ports), serial (9-pin), two ethernet (RJ-45),	Rescue and Recovery®		
IEEE 1394 adptr	three analog audio ports (line-in, line-out, mic-in) No onboard 1394 ports; 1394 models: additional FireWire PCIe adapter, 1394a-2000, 400Mbps, one 6-pin port on rear, one 6-pin port on front	Norton® Internet Security (30 days of virus definitions) Adobe® Reader® Adobe Flash® Player Microsoft® Office 2013 preloaded;		
Audio	High Definition (HD) Audio, Realtek® ALC662 codec	purchase product key to activate		
Speaker	Internal speaker for business audio	Corel® WinDVD® (DVϱRW model(s)) Ulead® DVD MovieFactory® (DVD±RW model(s))		
Ethernet Socurity obin	Dual onboard gigabit ethernet, Intel 82579 and 82574 Nuvoton NPCT421L for TPM function, TCG 1.2-compliant	ISV certifications		
Security chip Keyboard	Preferred Pro USB Keyboard (USB connector), 104-key, black	Please visit www.lenovo.com/support/ISV		
Mouse Power supply	Optical Wheel Mouse (USB connector), black 1120 watts with 120mm bottom-mounted variable speed fan, universal, Climate Savers® Computing Gold, 80 PLUS® Gold qualified	GREENGUARD® certified RoHS-compliant EPEAT™ Gold rating		
Limited Warranty ¹	3-year parts and labor; more Lenovo® services see on S-TS sheet			
Intel AMT	Supports Intel Active Management Technology 7	Supports ThinkVantage® technologies		
		More compatible accessories, please see O-HOL sheet		

ThinkStation® D30 Accessories

Partial list of accessories supported on ThinkStation	שט 130	Security Kensington MicroSaver Cable Lock	73P258
Processor Heatsink		Kensington WicroSaver Cable Lock Kensington Twin Head Cable Lock	45K162
Second Processor Heatsink for D30	0A65721	Lenovo Security Cable Lock	57Y430
Memory ⁵³		USB Gemplus GemPC Smart Card Reader	41N304
2GB PC3-10600 DDR3 ECC UDIMM ⁵⁴	43R2033	Rack mount accessories	11110011
4GB PC3-10600 DDR3 ECC UDIMM ⁵⁴	57Y4138	ThinkStation C-Series, D-Series Rail Kit	57Y448
8GB PC3-10600 DDR3 ECC UDIMM54	0A65718	Connectivity	07.1.10.
4GB PC3-12800 DDR3 ECC RDIMM54	0A65732	10Gbps Ethernet X540-T2 Server Adapter by Intel	0C1949
8GB PC3-12800 DDR3 ECC RDIMM54	0A65733	Todops Ethernet A340-12 Server Adapter by Titler	001949
More information on memory and processor configurati	ion, operation and		
limitation, please visit:	•		
www.lenovo.com/support/thinkstationaccessories			
Optical			
DVD-ROM DL SATA1.5Gb/s 16X-48X Max ⁴	41N5618		
Lenovo® Super Multi-Burner SATA Drive	0A65618		
Blu-ray™ Burner SATA1.5Gb/s	45K1675		
Storage and removable storage		-	
	40D1000		
500GB SATA 3.0Gb/s Disk (7200 rpm)	43R1990		
1TB SATA 3.0Gb/s Disk (7200 rpm)	45J7918		
450GB SAS 3.0Gb/s Disk (15000 rpm) ⁶⁸	43N3424		
180GB Solid State Drive	0B47308	4	
Keyboard			
Preferred Pro USB Keyboard	73P5220		
Enhanced Performance USB Keyboard	73P2620		
Lenovo USB Fingerprint Keyboard	73P4730		
Lenovo USB Smartcard Keyboard	51J0155		
Ultraslim Plus Wireless Keyboard and Mouse ⁵²	0A34032		
More information at www.lenovo.com/support/keyboa	ards		
Mouse			
Lenovo Optical Mouse (USB)	06P4069		
Lenovo ScrollPoint Mouse (USB, Optical)	31P7405		
Lenovo Laser Mouse (USB)	41U3074		
Lenovo Wireless Laser Mouse ⁵²	0A36188		
More information at www.lenovo.com/support/mice			
Monitors - ThinkVision®			
L1711p 17" (VGA, DVI-D)	5047HB2		
LT1952p Wide 19" (VGA, DP, DVI-D)69	2448MB6		
L2250p Wide 22" (VGA, DVI-D)	2572HB6		
L2251x Wide 22" (VGA, DP)	2578HB6		
LT2252p Wide 22" (VGA, DP, DVI-D) ⁶⁹	2572MB6		
LT2452p Wide 24" (VGA, DP, DVI-D) ⁶⁹	4420MB2		
More information at www.lenovo.com/support/monito	ors		
Monitor accessories ⁴⁶			
Kensington® MicroSaver® Cable Lock	73P2582		
Kensington Twin Head Cable Lock	45K1620		
More information at www.lenovo.com/support/monitor	oraccessories		
Graphics			
DisplayPort™ to Single-link DVI-D Cable⁵0	45J7915		
DisplayPort to DisplayPort Monitor Cable ⁵⁰	0A36537	⁴⁶ Compatible on selected Lenovo and ThinkVision mo	nitors.
NVIDIA® NVS™ 300 512MB DMS5965	0A36528	⁵⁰ Attaches to selected DisplayPort graphics cards.	
NVIDIA NVS 310 512MB	0B47074	52 Wireless via 2.4GHz technology using a micro-size U	JSB receiver.
NVIDIA NVS 510 2GB Graphics Card by Lenovo	0B47077	53 Mixing of UDIMM and RDIMM is not supported.	
NVIDIA Quadro 512MB 410	0B47075	⁵⁴ Actual memory operating speed depend on process controller speed, installed memory speed, and quan	or memory
NVIDIA Quadro 1GB 600	0A36183	controller speed, installed memory speed, and quan DIMMs.	tity of memor
NVIDIA Quadro 1GB 2000	57Y4479	65 Contains DMS59 to dual-DVI cable and DMS59 to dual-DVI	ıal-VGA
NVIDIA Quadro 1GB 2000D	0A36541	cable.	
NVIDIA Quadro 2GB 4000	57Y4480	68 ThinkStaion D30 needs SAS HDD Enablement Mode	ule or LSI
NVIDIA Quadro K600 1GB Graphics Card by Lenovo	0B47394	SATA/SAS adapter to support SAS hard drive.	
NVIDIA Quadro K2000 2GB Graphics Card by Lenovo	0B47392	⁶⁹ DisplayPort cable is not included; use optional	
NVIDIA Quadro K4000 3GB Graphics Card by Lenovo	0B47393	DisplayPort to DisplayPort Monitor Cable (0A36537)	
NVIDIA Quadro K5000 4GB Graphics Card by Lenovo	0B47081	For more information on accessories:	
More information at www.lenovo.com/support/graphic		www.lenovo.com/accessories	
		Purchase Lenovo accessories	

Purchase Lenovo accessories

www.lenovo.com/support/accessories Product specifications on Lenovo Support

www.lenovo.com/accessoriesguide Option Compatibility Matrix (OCM) and accessory brochures

www.lenovoquickpick.com
An Options Compatibility Configurator for Lenovo systems

ThinkStation® - TopSeller Services

The TopSeller™ services are designed to make selling the popular services with TopSeller systems faster and easier. Channel partners should always use TopSeller services with TopSeller systems. TopSeller services part numbers typically provide enhanced discounts and incentives for channel partners. The TopSeller service delivered to the customer is identical to the service delivered using a standard service part number. In situations where a desired service is not offered under a TopSeller service part number or the sale requires a special bid process, use available standard service part numbers.

TopSeller services should always be offered by channel business partners with TopSeller hardware, unless the sale requires special bid pricing or the desired service is not offered as a TopSeller service part.

For more information see:

http://www2.partnerinfo.lenovo.com/partners/us/resources/salestoolkit.shtml

Base Warranty		Part Number
3YR Onsite	TopSeller Services - 4YR Onsite	04W8713
3YR Onsite	TopSeller Services - 3YR Priority Support	04W8721
3YR Onsite	TopSeller Services - 4YR Priority Support*	
* Covered mach	nine must have concurrent warranty cover	age.

ThinkStation® - Lenovo® Services

Partial list of Lenovo Services⁷ for ThinkStation workstations

For more information see:

http://www.lenovo.com/services_warranty/us/en/lenovo-warranty.html

Base Warranty	Upgrade Service Description	Part Number
3YR Onsite	4YR Onsite	43R8983
3YR Onsite	5YR Onsite	43R8987
3YR Onsite	3YR Priority Support	45J9081
3YR Onsite	4YR Onsite + 4YR Priority	45J9082
3YR Onsite	5YR Onsite + 5YR Priority	45J9083
3YR Onsite	1YR Post Warranty Onsite	41C9282
3YR Onsite	2YR Post Warranty Onsite	41C9285
3YR Onsite	3YR KYD*	55Y2602

^{*}KYD = Keep Your Drive (Hard Disk Drive Retention)

Availability: All offers subject to availability. Lenovo reserves the right to alter product offerings and specifications at any time, without notice. Lenovo is not responsible for photographic or typographic errors.

Warranty: For a copy of applicable product warranties, go to http://support. lenovo.com/en_US/product-service/warranty-status/WarrantyPolicies.page. Lenovo makes no representation or warranty regarding third party products or services.

- Limited warranty: Support unrelated to a warranty issue may be subject to additional charges.
- ² **Hard drive:** GB = billion bytes, TB = trillion bytes. Accessible capacity is less.
- ³ Systems with limited onsite service are designed to be repaired during the applicable warranty period primarily with customer-replaceable parts provided by Lenovo. Lenovo will only send a technician onsite to perform a repair if (a) remote telephone diagnosis and/or customer part replacement are unable to resolve the problem, or (b) the part is one of the few designated by Lenovo for onsite replacement. For a list of onsite replaceable parts, contact Lenovo. Support unrelated to a warranty issue may be subject to additional charges.
- SATA/SAS: The system configuration supports the installation of SATA, SAS, or mixing of SATA and SAS. But mixing of SATA and SAS disks into one RAID array will not be supported.
- Included software may differ from its retail version (if available), and may not include user manuals or all program functionality. License agreements may apply.
- Lenovo Services: These services are available for machines normally used for business, professional, or trade purposes, rather than personal, family, or household purposes. Not all machine types and models are covered. Service period begins with the equipment date of purchase. Service must be purchased during the original limited product warranty period. Service levels are response time objectives and are not guarantees. If the machine problem turns out to be a Customer Replaceable Unit (CRU), a part will be express shipped to you for quick replacement. Onsite 24x7x2-hour service is not available in all locations. P&L means parts and labor. P/U means pick-up. See Lenovo Warranty Services terms and conditions for complete details and restrictions

⁸ RAID: Supported RAID levels for a system will vary from the stated capabilities of the RAID controller due to dependencies on the number and capacity of physical disks in the system and on customer requirements for performance, fault tolerance, or data redundancy.

RAID levels and requirements:

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

 Requires four drives.
- International Warranty Service is available in any country in which this product is sold and serviced. Service delivery methods and parts availability vary by country, may be different from that in the country of purchase, and are subject to change without notice. Fees and restrictions may apply in some countries.
- ¹⁴ Response times may vary. May exclude some holidays. Telephone support may be subject to additional charges.
- Operating System: Level of support varies by operating system. Operating systems not preloaded on the system may not provide full feature functionality. Refer to lenovo.com/pc/support and enter your machine type and model number for more information.



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