

THINKSTATION® PRODUCT OVERVIEW



OUR VALUE PROP

MORE RELIABLE

- According to a Workstation Warranty Repair Rate Study by Technology Business Review, ThinkStations are up to 24% more reliable than its top competitors
- More efficient thermal design
- Industry leading stability and mechanical strength

INNOVATION THAT MATTERS

- Lenovo® ThinkStation C30 is the smallest dual workstation available
- Lenovo ThinkStation E31 Small Form Factor is the smallest workstation among major vendors

THOUGHTFUL DESIGN

- Easier to perform upgrades
- More intuitive cable routing
- Takes less time to change components

ENVIRONMENTALLY FRIENDLY

- Only ThinkStation has Greenguard® certification
- Up to 80 Plus Platinum, 92% efficient power supplies

ISV CERTIFIED

- Rest assured, ThinkStation is fully certified to run your applications and deliver the performance you need

VERTICAL COVERAGE

INDUSTRY	USAGE SCENARIO	E31 SFF	E31 TOWER	S30	C30	D30
Design and Manufacturing	2D and Entry 3D Design	●	●			
	Mid-range 3D Design		○	●		
	High-end 3D Design			○	●	●
	Simulation and Rendering				○	●
Media and Entertainment	Website Development	●	●	○		
	Audio and Music Production	○	○	●	○	
	Film, Video and Broadcast Editing		○	●	○	○
	Visual Effects and Animation			○	●	●
	Video Game Development			○	○	●
Finance	Back Office Operations	●	●			
	Content Creation	●	●	○		
	Trading Floors			○	●	
Healthcare and Science	Front Office	●	●			
	Radiology			●		
	Medical Imaging			●	●	
	Research and Development				○	●
Energy and Geospatial	Geographical Data Processing	○	●	○		
	Reservoir Modeling			○	○	●

PRODUCT DIFFERENTIATION

PRODUCT	SINGLE PROCESSOR
E Series	<p>PRICE/PERFORMANCE LEADER</p> <ul style="list-style-type: none"> Entry-level 3D and 2D CAD, Website Development, Financial Back Office Operations, Healthcare Front Office Smallest Workstation in its Class <ul style="list-style-type: none"> » ThinkStation® E31 Small Form Factor (11L) is the smallest workstation in the world. » ThinkStation E31 Tower is 24% smaller than the HP Z220, 7% smaller than the Dell T1650. Energy Efficient <ul style="list-style-type: none"> » Only workstation with a 92% efficient, 80 Plus Platinum power supply Supports 3 Independent Displays <ul style="list-style-type: none"> » Using Intel Integrated HD Graphics » HP Z220 and HP Z220 SFF does not support 3 independent displays
S Series	<p>MAINSTREAM VALUE WORKSTATION</p> <ul style="list-style-type: none"> Basic Rendering, Radiology, Performance 3D CAD, Audio and Music Production, Entry-level Digital Content Creation More Effective Thermal Design <ul style="list-style-type: none"> » Fans in the front and the back of the system, ensuring cool air is drawn into the system and warm out is pushed out. » Dell T3600 only has fans in the front of the system. Twice the memory (128GB vs. 64GB) than the HP Z420 and Dell T3600 1 more 3.5" HDD than the Dell T3600 Cables are connected directly to components for easy access.
PRODUCT	DUAL PROCESSOR
C Series	<p>WORLD'S SMALLEST DUAL PROCESSOR</p> <ul style="list-style-type: none"> Financial Trading, Medical Imaging, Professional 3D Visualization and Analysis, High-end 3D CAD World's Smallest Dual Socket Workstation <ul style="list-style-type: none"> » 31% smaller than HP Z620 » 27% smaller than the Dell T5600 ThinkStation C30 supports more memory (128GB vs. 96GB) than HP Z620 Upgrading memory on HP Z620 requires removing 2nd CPU module. ThinkStation C30 supports one more 3.5" HDD than the Dell T5600 mSATA support, an inexpensive way to increase storage capacity, or improve OS performance.
D Series	<p>NO COMPROMISE DUAL SOCKET</p> <ul style="list-style-type: none"> High-end Simulation, Analysis and Rendering, High-end Digital Content Creation, Special Effects and Animation, Life Science Research and Development Fewer Fans, Better Results <ul style="list-style-type: none"> » ThinkStation D30 uses 5 fans, Dell T7600 uses 8, HP Z820 uses 11 » ThinkStation is more reliable according to TBR's Warranty Repair Rate Study ThinkStation D30 routes cables directly to components rather than behind the motherboard mSATA Support, an inexpensive way to increase storage capacity, or improve OS performance

COMPETITIVE COMPARE

		LENOVO® THINKSTATION®	HP Z SERIES	DELL PRECISION
Performance/ Expandability ↑	Full-Size Dual Socket Xeon®	D30	Z820	T7600
	Compact Dual Socket Xeon®	C30	Z620	T5600
	Single Socket Xeon®	S30	Z420	T3600
	Entry	E31, E31 SFF	Z220, Z220 SFF	T1650

ISV CERTIFICATION

ISV	Application	ThinkStation					Graphics						
		E31 SFF	E31 Tower	S30	C30	D30	Intel® HD Graphics P4000	NVIDIA® Quadro® 400	NVIDIA® Quadro® 600	NVIDIA® Quadro® 2000	NVIDIA® Quadro® 4000	NVIDIA® Quadro® 5000	NVIDIA® Quadro® 6000
Design and Manufacturing													
Altair	HyperWorks	●	●	●	●	●		●	●	●	●	●	●
ANSYS		●	●	●	●	●		●	●	●	●	●	●
Bentley	MicroStation	●	●	●	●	●			●	●	●	●	●
Autodesk	Alias	●	●	●	●	●			●	●	●	●	●
	AutoCAD	●	●	●	●	●		●	●	●	●	●	●
	Inventor	●	●	●	●	●		●	●	●	●	●	●
	Revit	●	●	●	●	●		●	●	●	●	●	●
	Showcase	●	●	●	●	●			●	●	●	●	●
Dassault Systèmes	CATIA	●	●	●	●	●			●	●	●	●	●
	DELMIA	●	●	●	●	●			●	●	●	●	●
	ENOVIA	●	●	●	●	●			●	●	●	●	●
	ICEM Surf	●	●	●	●	●			●	●	●	●	●
	SIMULIA	●	●	●	●	●			●	●	●	●	●
	SolidWorks	●	●	●	●	●	●	●	●	●	●	●	●
PTC	Creo	●	●	●	●	●	●		●	●	●	●	●
Siemens	NX I-deas	●	●	●	●	●		●	●	●	●	●	●
	NX	●	●	●	●	●		●	●	●	●	●	●
	Solid Edge	●	●	●	●	●		●	●	●	●	●	●
	Tecnomatix	●	●	●	●	●		●	●	●	●	●	●
Media and Entertainment													
Adobe	After Effects		●	●	●	●				●	●	●	●
	Photoshop	●	●	●	●	●	●	●	●	●	●	●	●
	Premiere Pro		●	●	●	●				●	●	●	●
	SpeedGrade		●	●	●	●					●	●	●
Autodesk	3ds Max	●	●	●	●	●	●	●	●	●	●	●	●
	Maya	●	●	●	●	●	●	●	●	●	●	●	●
	MotionBuilder	●	●	●	●	●		●	●	●	●	●	●
	Mudbox	●	●	●	●	●		●	●	●	●	●	●
	Softimage	●	●	●	●	●	●	●	●	●	●	●	●
Avid	Media Composer	●	●	●	●	●	●		●	●	●		
	Newscutter	●	●	●	●		●		●	●	●		
	Symphony	●	●	●	●		●		●	●	●		
Geomagic	Qualify		●	●	●	●				●	●	●	
	Studio		●	●	●	●				●	●	●	
Energy and Geospatial													
Esri	ArcGIS	●	●	●	●	●			●	●	●	●	●
IHS	KINGDOM			●	●	●					●	●	●
Paradigm				●	●	●					●	●	●
Schlumberger	Petrel			●	●	●				●	●	●	●

GRAPHICS SUPPORT

GRAPHICS ADAPTER	SYSTEM					NATIVE CONNECTOR					SUPPORTED BY ADAPTER			
	E31 SFF	E31 TOWER	S30	C30	D30	VGA	DVI	DISPLAY PORT™	MINI DP	DMS59	VGA	DVI	DISPLAY PORT™	HDMI
Intel® HD Graphics P4000	✓	✓				1	-	1	-	-	-	-	1	-
NVIDIA® Quadro® NVS 300 x16	✓	✓	✓✓	✓✓	✓✓	-	-	-	-	1	2	2	2	2
NVIDIA® Quadro® NVS 300 x1	✓	✓	✓✓	✓✓	✓✓	-	-	-	-	1	2	2	2	2
NVIDIA® Quadro® NVS 310 x16	✓	✓	✓✓	✓✓	✓✓	-	-	2	-	-	-	2	-	2
NVIDIA® Quadro® NVS 310 x1	✓	✓	✓✓	✓✓	✓✓	-	-	2	-	-	-	2	-	2
NVIDIA® Quadro® NVS 450		✓	✓✓	✓✓	✓✓	-	-	4	-	-	-	4	-	4
NVIDIA® Quadro® NVS 510		✓	✓✓	✓✓	✓✓	-	-	-	4	-	-	4	4	4
NVIDIA® Quadro® 410	✓	✓	✓✓	✓✓	✓✓	-	1	1	-	-	1	1	-	2
NVIDIA® Quadro® 600	✓	✓	✓✓	✓✓	✓✓	-	1	1	-	-	1	1	-	2
NVIDIA® Quadro® 2000		✓	✓✓	✓✓	✓✓	-	1	2	-	-	1	1	-	2
NVIDIA® Quadro® 2000D		✓	✓✓	✓✓	✓✓	-	2	-	-	-	2	-	-	2
NVIDIA® Quadro® 4000		✓	✓	✓✓	✓✓	-	1	2	-	-	1	2	-	2
NVIDIA® Quadro® 5000			✓	✓✓	✓✓	-	1	2	-	-	1	2	-	2
NVIDIA® Quadro® K5000			✓	✓✓	✓✓	-	2	2	-	-	2	2	-	4
NVIDIA® Quadro® 6000				✓	✓✓	-	1	2	-	-	1	2	-	2
NVIDIA® Tesla™ C2075			✓	✓	✓	-	-	-	-	-	-	-	-	-



SERIES SUMMARY

PRODUCT LINE	THINKSTATION® E31 SFF	THINKSTATION E31 TOWER	THINKSTATION S30	THINKSTATION C30	THINKSTATION D30
Chassis Format	SFF	Tower	Tower	Tower	Tower
Chassis Dimension	99.7mm D x 337mm W x 369mm H	430mm D x 175mm W x 425mm H	483mm D x 175mm W x 478mm H	444mm D x 130mm W x 427mm H	602mm D x 210mm W x 485mm H
Size	11L	25L	35L	24L	55L
Rackable	No	No	No	Yes	Yes
Handles	None	Yes	Yes	Recessed/Integrated Handle	Yes
Power Supply	Fixed PSU 240W 85% Efficient 240W 92% Efficient	Fixed PSU 285W 85% Efficient 450W 92% Efficient	610W 90% Efficient	800W 90% Efficient	1120W 90% Efficient
Single/Dual CPUs	Single	Single	Single	Dual	Dual
Celeron®/Pentium®/Core™ Processors	Yes	Yes	No	No	No
Xeon® E3-1200 Processors	Yes	Yes	No	No	No
Xeon® E5-1600 Processors	No	No	Yes	No	No
Xeon® E5-2600 Processors	No	No	Yes	Yes	Yes
Chipset	C216	C216	Intel® C602	Intel® C602	Intel® C602
Memory Slots	4	4	8	8	16
Memory Capacity (GB)	32	32	128	128	256
Memory Type	DDR3 Support UDIMM	DDR3 Support UDIMM	DDR3 UDIMM RDIMM	DDR3 UDIMM RDIMM	DDR3 UDIMM RDIMM
On board RAID	RAID 0, 1 Integrated into chipset	RAID 0, 1, 5 Integrated into chipset	SATA RAID 0, 1, 5 supported natively SAS RAID 0, 1 supported via Upgrade ROM	SATA RAID 0, 1, 5 supported natively SAS RAID 0, 1, supported via Upgrade ROM	SATA RAID 0, 1, 5 supported natively SAS RAID 0, 1, 10 supported via Upgrade ROM
HDD Type	3.5" SATA (6GBps) 7200rpm 250GB/ 500GB/1TB/2TB/3TB 2.5" SATA (6GBps) 10K rpm 150GB/300GB/600GB 2.5" SSD (6GBps): 128GB/256GB/180GB	3.5" SATA (6GBps) 7200rpm 250GB/ 500GB/1TB/2TB/3TB 2.5" SATA (6GBps) 10K rpm 150GB/ 300GB/600GB 2.5" SSD (6GBps): 128GB/256GB/180GB	3.5" SATA (3/6 GBps) 7200rpm 250GB/ 500GB/1TB/2TB 2.5" SATA (3/6 GBps) 10K rpm 150GB/ 300GB/600GB 2.5" SAS (3/6 GBps) 15K rpm 146GB/300GB 2.5" SSD (3/6 GBps) 128GB/256GB/512GB	3.5" SATA (3/6 GBps) 7200rpm 250GB/ 500GB/1TB/2TB 3.5" SAS (3GBps) 15K rpm 300GB/ 450GB/600GB 2.5" SATA (3/6 GBps) 10K rpm 150GB/ 300GB/600GB 2.5" SAS (3/6 GBps) 15K rpm 146GB/300GB 2.5" SSD (3/6 GBps) 128GB/256GB/512GB	3.5" SATA (3/6 GBps) 7200rpm 250GB/ 500GB/1TB/2TB 3.5" SAS (3/6 GBps) 15K rpm 450GB/600GB 2.5" SATA (3/6 GBps) 10K rpm 150GB/ 300GB/600GB 2.5" SAS (3/6 GBps) 15K rpm 146GB/300GB 2.5" SSD (3/6 GBps) 128GB/256GB/512GB
# of Bays (HDDs + Flex)	2	4	5	4	8
5.25" Optical (Flex) Bays	1	2	2	1	3
Internal HDD Bays	1	2	3	3	5
Total HDDs	2	3	4	3	5
External SATA	Optional	Optional	Optional (rear)	Optional (rear)	Optional
mSATA	No	No	No	Yes	Yes
Media Card Reader	Yes	Yes	Optional	No	Yes
# of Slots (PCI/PCIe)	4	4	5	6	6
PCI (default)	1	1	1	2	2
PCIe x1 (electrical)	1	1	0	0	0
PCIe x4 (electrical)	1	1	1 PCIe x4 (x16 mechanical) Gen3 1 PCIe x4 (mechanical/electrical) Gen2	2	2
PCIe x16 (electrical)	1	1	2 PCIe Gen3 x16	2	2

PRODUCT LINE	THINKSTATION® E31 SFF	THINKSTATION E31 TOWER	THINKSTATION S30	THINKSTATION C30	THINKSTATION D30
Maximus support	No	No	Yes (up to Q2000)	Yes (up to Q2000)	Yes (up to Q6000)
Remote Graphics	No	No	Teradici® 2240	Teradici® 2240	Teradici® 2240
Audio	Realtek® ALC662-VD HD 5.1	Realtek® ALC662-VD HD 5.1	Realtek® HD ALC662	Realtek® HD ALC662	Realtek® HD ALC662
On-board Ethernet	1 Port (GbE)	1 Port (GbE)	1 Port (GbE)	1 Port (GbE)	2 Ports (GbE)
Serial	Yes	Yes	1	1 (optional)	1
Parallel	Optional	Optional	No	No	No
PS/2	Optional	Optional	Optional	Optional	Optional
USB	Front: 2 USB 2.0 Rear : 4 USB 3.0 + 2 USB 2.0 Internal: 1 USB 2.0	Front: 2 USB 2.0 Rear : 4 USB 3.0 + 2 USB 2.0 Internal: 1 USB 2.0	2 Front: 2 USB 2.0 10 Rear: 2 USB 3.0, 8 USB 2.0	8 Rear: USB 2.0 2 Rear: USB.3.0 2 Front: USB 2.0	8 Rear: USB 2.0 2 Rear: USB.3.0 2 Front: USB 2.0
Firewire	Optional (rear)	Optional (rear)	Optional (back)	Optional	2 (Optional with PCIe Card)
Kensington® lock slot	Yes	Yes	Yes	Yes	Yes
Chassis/ Access Panel key lock	Yes	Yes	Yes	Yes	Yes
Security Chip	TPM 1.2	TPM 1.2	TPM v 1.2	TPM v. 1.2	TPM v 1.2
vPro Support	Yes	Yes	Yes	Yes	Yes
Tool-less chassis	Yes	Yes	Yes	Yes	Yes
Operating Systems	Genuine Windows® 7 Professional 32-bit Genuine Windows® 7, 8 Professional 64-bit Red Hat Enterprise Linux®	Genuine Windows® 7 Professional 32-bit Genuine Windows® 7, 8 Professional 64-bit Red Hat Enterprise Linux®	Windows® 7 Ultimate (64bit) Windows® 7 Professional (32/64bit) Windows® XP Professional (32/64bit) RHEL Linux® 6.2	Windows® 7 Ultimate (64bit) Windows® 7 Professional (32/64bit) Windows® XP Professional (32/64bit) RHEL Linux® 6.2	Windows® 7 Ultimate (64bit) Windows® 7 Professional (32/64bit) Windows® XP Professional (32/64bit) RHEL Linux® 6.2

For more technical information, go to <http://thinkstation-specs.com/>

RECOMMENDED SERVICES

Service Upgrade Description	Part #	Price
4 year Onsite Next Business Day + Priority Technical Support	45J9082	\$179.00
3 year Tech Install CRU	04W9658	\$15.00
3 year Keep Your Drive	55Y2602	\$30.00

OPTIONS COMPATIBILITY MATRIX

Description	Part	E31 SFF (3688, 3690, 3691, 3693, 3695)	E31 Tower (2551, 2552, 2553, 2554, 2555)	S30 Tower (0567, 0568, 0569, 0606, 4351, 4352)	C30 Tower (1095, 1097, 1096, 1136, 1137)	D30 Tower (4223, 4229, 4353, 4354)	E30 Tower (7782, 7783, 7821, 7823, 7824)	E20 Tower (4215, 4219, 4220, 4221, 4222)	C20 Tower (4262, 4263, 4264, 4265)	C20x Tower (4266, 4269, 4271, 4272)	S20 Tower (4217, 4105, 4157)	D20 Tower (4218, 4155, 4158)	S10 Tower (6423, 6489, 6439)	D10 Tower (6427, 6493)
Non-ECC UDIMM Memory														
Lenovo® 2GB PC3-10600 DDR3-1333 UDIMM Desktop Memory	57Y4390						6	6						
Lenovo 4GB PC3-10600 DDR3-1333 UDIMM Desktop Memory	0A36527						6							
Lenovo 2GB PC3-10600 DDR3-1333 UDIMM Desktop Memory (25-pack)	57Y4420						6	6						
Lenovo 2GB PC3-12800 DDR3-1600 UDIMM Desktop Memory	0A65728	10	10				6							
Lenovo 4GB PC3-12800 DDR3-1600 UDIMM Desktop Memory	0A65729	10	10				6							
Lenovo 8GB PC3-12800 DDR3-1600 UDIMM Desktop Memory	0A65730	10	10				6							
ECC UDIMM Memory														
Lenovo 2GB PC3-10600 DDR3-1333 ECC UDIMM Workstation Memory	43R2033			58	58	58	6	6	58	58	x	58		
Lenovo 4GB PC3-10600 DDR3-1333 ECC UDIMM Workstation Memory	57Y4138			58	58	58	6	6	58	58	x	58		
Lenovo 8GB PC3-10600 DDR3-1333 ECC UDIMM Workstation Memory	0A65718			58	58	58	6	6	58	58	x	58		
Lenovo 2GB PC3-12800 DDR3-1600 ECC UDIMM Workstation Memory	0B47376	x	x											
Lenovo 4GB PC3-12800 DDR3-1600 ECC UDIMM Workstation Memory	0B47377	x	x											
Lenovo 8GB PC3-12800 DDR3-1600 ECC UDIMM Workstation Memory	0B47378	x	x											
RDIMM Memory														
Lenovo 2GB PC3-10600 DDR3-1333 ECC RDIMM Workstation Memory	57Y4425								58	58		58		
Lenovo 4GB PC3-10600 DDR3-1333 ECC RDIMM Workstation Memory	57Y4426								58	58		58		
Lenovo 8GB PC3-10600 DDR3-1333 ECC RDIMM Workstation Memory	57Y4427								58	58		58		
Lenovo 4GB PC3-12800 DDR3-1600 ECC RDIMM Workstation Memory	0A65732			58	58	58								
Lenovo 8GB PC3-12800 DDR3-1600 ECC RDIMM Workstation Memory	0A65733			58	58	58								
STORAGE														
Hard Drives/Internal/Serial ATA (SATA)														
Lenovo 250GB 7200 rpm Serial ATA Hard Drive	41N3015		x	x	x	x	x	x	x	x	x	x	x	8
Lenovo 500GB 7200 rpm Serial ATA Hard Drive	43R1990		x	x	x	x	x	x	x	x	x	x	x	8
Lenovo 1TB 7200 rpm Serial ATA Hard Drive	45J7918		x	x	x	x	x	x	x	x	x	x		
Hard Drives/Internal/10000 rpm Serial ATA (SATA)														
Lenovo 300GB 10K rpm Serial ATA Hard Drive	43R2031		x	x	x	x	x	x	x	x	x	x	x	8
Hard Drives/Internal/Serial Attached SCSI (SAS)														
ThinkStation® 450GB 15K rpm SAS Hard Drive	43N3424			x	x	x				x	16	x	8	x
Hard Drives/External/USB-Attached														
Lenovo USB 2.0 Portable 320GB Hard Drive	45K1689	x	x	x	x	x	x	x	x	x	x	x	x	x
Lenovo USB 2.0 Portable 500GB Hard Drive	45K1690	x	x	x	x	x	x	x	x	x	x	x	x	x
ThinkPad® USB Secure 320GB Hard Drive	43R2019	x	x	x	x	x	x	x	x	x	x	x	x	x
ThinkPad USB 3.0 Portable Secure 500GB Hard Drive	0A65619	x	x	x	x	x	x	x	x	x	x	x	x	x
ThinkPad USB 3.0 Portable Secure 750GB Hard Drive	0A65616	x	x	x	x	x	x	x	x	x	x	x	x	x
ThinkPad USB 3.0 Portable Secure 1TB Hard Drive	0A65621	x	x	x	x	x	x	x	x	x	x	x	x	x
Optical Drives/Desktops														
Lenovo DVD-ROM Drive (Serial ATA)	41N5618	x	x	x	x	x	x	x	x	x	x	x	x	x
Lenovo Super Multi-Burner Drive	0A65618	x	x	x	x	x	x	x	x	x	x	x		
Lenovo Blu-ray Burner	45K1675													
Optical Drives/External/USB-Attached														
Lenovo Slim USB Portable DVD Burner	0A33988	x	x	x	x	x	x	x	x	x	x	x	x	x
AUDIO AND VIDEO														
Graphics Cards														
NVIDIA® Quadro® NVS 295 256MB Dual-DisplayPort	45K1669			x	x	x	x	x	1	1	1	1		
NVIDIA® NVS 300 Dual-VGA, Dual-DVI Graphics Card	0A36528	x	x	x	x	x	x	x	1	1	1	1		
NVIDIA® NVS 310 Dual-DisplayPort™ Graphics Card	0B47074	x	x	x	x	x	x	x	x	x	x	x		
NVIDIA® Quadro® NVS 450 512MB Quad DisplayPort™, Single-Link DVI-D Graphics Card	57Y4398		x	x	x	x	x	x	1	1	1	1		
NVIDIA® Quadro® 400 48 CUDA Cores 512MB Dual-Link DVI-I, DisplayPort™ Graphics Card	0A36535	x	x	x	x	x	x	x	1	1	1	1		
NVIDIA® Quadro® 410, 521MB Dual-Link DVI-I, DisplayPort™ Graphics Card	0B47075	x	x	x	x	x	x	x	x	x	x	x		
NVIDIA® Quadro® 600 96 CUDA Cores 1GB Dual-Link DVI-I, DisplayPort™ Graphics Card	0A36183	x	x	x	x	x	x	x	1	1	1	1		
NVIDIA® Quadro® 2000 192 CUDA Cores 1GB Dual-Link DVI-I, Dual DisplayPort™ Graphics Card	57Y4479		x	x	x	x	x	x	1	1	1	1		
NVIDIA® Quadro® 2000D 192 CUDA Cores 1GB Dual-DVI Graphics Card	0A36541		x	x	x	x	x		1	1	1	1		
NVIDIA® Quadro® 4000 256 CUDA Cores 2GB Dual-Link DVI, Dual DisplayPort™, Stereo Graphics Card	57Y4480			x	x	x			1	1	1	1		
NVIDIA® Quadro® 5000 352-core CUDA 2.5GB Dual-Link DVI, Dual DisplayPort™, Stereo Graphics Card	57Y4481			x	x	x			1	1	1	1		

Description	Part	E31 SFF (3688, 3690, 3691, 3693, 3695)	E31 Tower (2551, 2552, 2553, 2554, 2555)	S30 Tower (0567, 0568, 0569, 0606, 4351, 4352)	C30 Tower (1095, 1097, 1096, 1136, 1137)	D30 Tower (4223, 4229, 4353, 4354)	E30 Tower (7782, 7783, 7821, 7823, 7824)	E20 Tower (4215, 4219, 4220, 4221, 4222)	C20 Tower (4262, 4263, 4264, 4265)	C20x Tower (4266, 4269, 4271, 4272)	S20 Tower (4217, 4105, 4157)	D20 Tower (4218, 4155, 4158)	S10 Tower (6423, 6483, 6439)	D10 Tower (6427, 6493)	
Lenovo ThinkVision L2321x Wide (23-inch, VGA+DisplayPort, 3-USB, 1920 x 1080, TCO 5.0)	4014HB6	x	x	x	x	x	x	x	x	x	x	x	x	x	
Lenovo ThinkVision L2251x Wide (22-inch, VGA+DisplayPort, 3-USB, WebCam+Mic, 1680x1050, TCO Edge)	2578HB6	x	x	x	x	x	x	x	x	x	x	x	x	x	
Lenovo® ThinkVision® LT2252p (22-inch, VGA+DVI+DisplayPort, 1680x1050)	2572MB6	57	57	57	57	57	57	57	57	57	57	57	57	57	
Lenovo ThinkVision L2251p Wide (22-inch, VGA+DisplayPort, 1680x1050, TCO 5.0)	2572HD6	x	x	x	x	x	x	x	x	x	x	x	x	x	
Lenovo ThinkVision L2250p Wide (22-inch, VGA+DVI, 1680x1050, TCO 5.0)	2572HB6	x	x	x	x	x	x	x	x	x	x	x	x	x	
Lenovo ThinkVision LT1952p (19-inch, VGA+DVI+DisplayPort, 1440x900)	2448MB6	57	57	57	57	57	57	57	57	57	57	57	57	57	
Lenovo ThinkVision L1951p Wide (19-inch, VGA+DVI, 1440x900, TCO 5.0)	2448HB6	x	x	x	x	x	x	x	x	x	x	x	x	x	
Lenovo ThinkVision L1951p Wide (19-inch, VGA+DVI, 1440x900, TCO 5.0)	2448HC6	x	x	x	x	x	x	x	x	x	x	x	x	x	
Lenovo ThinkVision L197 Wide (19-inch, VGA DVI, 1440x900)	4434HE1	x	x	x	x	x	x	x	x	x	x	x	x	x	
Lenovo ThinkVision L1900p Performance Monitor (19-inch, VGA+DVI, 1280x1024, TCO'03)	4431HE1	x	x	x	x	x	x	x	x	x	x	x	x	x	
Lenovo ThinkVision L1711p Monitor (17-inch, VGA+DVI, 1280x1024, TCO 5.0)	5047HB2	x	x	x	x	x	x	x	x	x	x	x	x	x	
Lenovo LS2421p (23.6-inch wide, VGA+HDMI, 1920x1080, 4-USB, TCO 5.0)	4015LS1	x	x	x	x	x	x	x	x	x	x	x	x	x	
Lenovo LS2251 (22-inch wide, VGA+DVI, 1680x1050, TCO 5.0)	4043LS1	x	x	x	x	x	x	x	x	x	x	x	x	x	
Lenovo LS2221 (21.5-inch wide, VGA+DVI, 1920x1080, TCO 5.0)	5453LS1	x	x	x	x	x	x	x	x	x	x	x	x	x	
Lenovo LS1951 (19-inch wide, VGA+DVI, 1440x900, TCO 5.0)	4448LS1	x	x	x	x	x	x	x	x	x	x	x	x	x	
Lenovo D186 Wide (18.5-inch, VGA, 1366x768)	2580AB1	x	x	x	x	x	x	x	x	x	x	x	x	x	
ThinkVision LT2323p Wide Monitor With Tilt-only Stand (23-inch, VGA+DVI+DP,1-4USB2.0, 1920x1080, TCO 5.2)	3024HB1	x	x	x	x	x	x	x							
ThinkVision LT2323z Wide Monitor (23-inch, VGA+DP,1-3USB3.0, 2USB2.0 1920x1080, TCO 5.2)	3028LB2	x	x	x	x	x	x	x							
Lenovo LS2023 Wide Monitor (20-inch, VGA+DVI, 1600x900, TCO 6.0)	3778HB2	x	x	x	x	x	x	x							
Lenovo LS1922 Wide Monitor (18.5-inch, VGA, 1366x768, TCO 5.2)	2580AF1	x	x	x	x	x	x	x							
Lenovo LS2223 Wide Monitor (21.5-inch, VGA+DVI, 1920x1080, TCO 6.0)	3783HB2	x	x	x	x	x	x	x							
Lenovo LS2323 Wide Monitor (23-inch, VGA+DVI, 1920x1080, TCO 6.0)	3794HB1	x	x	x	x	x	x	x							
SECURITY															
Physical Security															
Kensington MicroSaver DS Security Cable Lock from Lenovo	0B47388	x	x	x	x	x	x	x	x	x	x	x	x	x	
Kensington MicroSaver Security Cable Lock from Lenovo	73P2582	7	7	7	7	7	7	7	7	7	7	7	7	7	
Kensington Twin Head Cable Lock from Lenovo	45K1620	7	7	7	7	7	7	7	7	7	7	7	7	7	
Lenovo Security Cable Lock	57Y4303	7	7	7	7	7	7	7	7	7	7	7	7	7	
Smart Card Security															
Gemplus GemPC USB Smart Card Reader from Lenovo	41N3040	x	x	x	x	x	x	x	x	x	x	x	x	x	
Footnotes															
1. ThinkStation models offer two PCI-e x16 graphic slots allowing two graphic cards to be installed.															
2. Supports attachment of flat panel monitors with a 75mm or 100mm VESA mount. Weighs less than 10.9 kg (24.0 lbs) when desk mounted or 7.98 kg (17.6 lb) when wall mounted															
3. Memory operating speed is dependent lowest installed speed, processor and the DDR3-1333 configuration. For more information on memory configuration, operation and limitations, go to: www.lenovo.com/support/thinkstationaccessories															
4. Mixing UDIMM and RDIMM is not allowed. Memory operating speed is dependent lowest installed speed, processor and the DDR3-1333 configuration. For more information on memory configuration, operation and limitations, go to: www.lenovo.com/support/thinkstationaccessories															
5. Mixing UDIMM and RDIMM is not allowed. Memory operating speed is dependent lowest installed speed, processor and the DDR3-1066 configuration. For more information on memory configuration, operation and limitations, go to: www.lenovo.com/support/thinkstationaccessories															
6. Mixing ECC (Error Correcting Code) and non-ECC is not allowed. Mixing of memory speeds is allowed, however, the system operates at the lowest installed speed.															
7. For ThinkStation S10, D10, E20, S20, D20, E30, S30, D30 attaching the cable lock not only secures the ThinkStation to the work area, but it also prevents users from opening the chassis itself. For ThinkStation C20, C20x, C30 attaching the cable lock only secures the ThinkStation to the work area.															
8. Mixing of Serial ATA and SAS Hard Drives is not recommended. Most S10 models are configured with Serial ATA Hard Drives, and most D10 models are configured with SAS Hard Drives.															
9. If a 2nd processor is installed, the 2nd processor must match (matched pairs) existing installed Intel® Xeon processor.															
10. Mixing ECC (Error Correcting Code) and non-ECC is not allowed.															
11. Compatible with: LT2452p, LT2252p, LT1952p, L2440p, L2440x, L2321x, L2261, L2060, L2251x, L2251p, L2250p, L1951p, L1900p, L1711p, L215p, L215, D195, D185 monitors															
12. Attaches to DisplayPort™ graphics cards. For more information, go to: www.lenovo.com/support/graphiccards or www.lenovo.com/support/monitoraccessories															
13. "Fn" and "Hotkey" operations vary by system, for operation information go to: www.lenovo.com/support/keyboards															
14. USB-only attach.															
15. Requires the Lenovo-installed, system specific PS2 adapter. For more information, refer to the systems Hardware Maintenance Manual.															
16. S20, C20 are SATA-based. SAS hard drives require the Lenovo-installed SAS controller adapter on S20.															
17. 13. Attaches to systems DisplayPort, or the installed DisplayPort™ graphics card. For more information, go to: www.lenovo.com/support/graphiccards or www.lenovo.com/support/monitoraccessories															
55. Lenovo ThinkVision monitor does not include a DisplayPort™ cable. To attach using monitors DisplayPort™ monitor port to the systems DisplayPort™ monitor port, the Lenovo DisplayPort™ to DisplayPort™ Monitor Cable (0A36537) is required.															
56. Lenovo ThinkVision monitor does not include a DisplayPort™ cable. To attach using monitors DisplayPort™ monitor port to the systems, or an installed graphics card with DisplayPort™, the Lenovo DisplayPort™ to DisplayPort™ Monitor Cable (0A36537) is required.															
57. Lenovo ThinkVision monitor does not include a DisplayPort™ cable. To attach using monitors DisplayPort™ monitor port to an installed graphics card with DisplayPort™, the Lenovo DisplayPort™ to DisplayPort™ Monitor Cable (0A36537) is required.															
58. Mixing UDIMM and RDIMM is not supported. Mixing of memory speeds is allowed, however, the system operates at the lowest installed speed.															