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**THINKSTATION
C20/C20x**



UNPARALLELED PERFORMANCE IN AN UNPRECEDENTED SIZE

LENOVO® THINKSTATION® C20 AND C20x

Lenovo introduces the all-new ThinkStation C20 and C20x, compact, premium workstations for businesses that have space-constraints and require dual-CPU horsepower. Available in two models, the ThinkStation C20 offers compact dual-CPU workstation performance in an unprecedented form factor. The ThinkStation C20x is a true testament to Lenovo's exceptional engineering, achieving what many thought to be an "impossible design".

The ISV-certified ThinkStation C20 and C20x are engineered from the ground up for Financial Services sector, Computer-Aided Design (CAD) and Digital Content Creation (DCC) customers. They are the world's smallest¹ dual-CPU workstations with no-compromise performance². These workstations allow professionals to fit more number-crunching capabilities in less space, as compared to existing compact dual-CPU workstation solutions.

TOP REASONS TO OWN

- WORLD'S SMALLEST¹ DUAL-CPU WORKSTATION, FEATURING INTEL® XEON® 5600 SERIES PROCESSORS
- UP TO 12 DIMM SLOTS, DELIVERING UNMATCHED MEMORY CAPACITY
- QUICK AND EASY TOOL-LESS MAINTENANCE AND UPGRADES
- FITS UP TO 14 WORKSTATIONS IN A 42U RACK
- COOL AND QUIET TECHNOLOGY, FEATURING TRI-CHANNEL COOLING
- ENVIRONMENTAL CHAMPION OF ITS CLASS WITH AN 80 PLUS GOLD POWER SUPPLY AND RECYCLED PLASTICS USAGE

Powered by Intel® Xeon® 5600 series processors, the ThinkStation C20 and C20x significantly improve performance and productivity over prior-generation technology. These enterprise-class processors offer Turbo Boost Technology, which can intelligently adjust the CPU's performance and power usage, depending on the user's workload. Further, the Lenovo Enhanced Experience for Windows® 7 enables faster start-up and shut-down times among other security and back-up features, enhancing end-user productivity. The ThinkStation C20 and C20x also come with Error Correcting Codes (ECC) memory, providing greater data accuracy, improving system uptime and protecting against memory errors. For leading-edge graphics, Lenovo has partnered with NVIDIA® and ATI® to bring you the latest in professional workstation graphics adapters, yielding superior application performance and stability.

The ThinkStation C20 and C20x are also the perfect choice for businesses that require a smaller, easy-to-manage workstation and maintain dual-CPU performance. A tool-less interior enables quick and easy maintenance and upgrades of key components, without ever having to reach for a screwdriver. Equipped with a spill-resistant, recessed handle, the ThinkStation C20 and C20x are optimized for rack environments. A standard 42U rack traditionally fits up to 10 compact workstations, but with the ThinkStation C20 or C20x customers can now install up to 14 systems. Front-access media ports with illuminated I/O icons allow you to easily connect devices to the right I/O ports, even in dark environments. The recessed power button design prevents accidental shutdowns that can potentially cost users, hours of their hard work.

LENOVO ENHANCED EXPERIENCE FOR WINDOWS® 7. FAST. SECURE. BUILT FOR BUSINESS.

Discover a better way of doing business with the new Lenovo Enhanced Experience for Windows® 7 on Think-branded PCs. Faster, more durable and greener Think-branded PCs are optimized for Windows® 7 to deliver improved ease of use. It enhances productivity and foolproof security that your business cannot do without.

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THERE'S MORE THINKING IN A **ThinkStation**



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An environmental champion, the ThinkStation® C20 and C20x are the first, compact dual-CPU workstations to use 80 Plus Gold-certified power supplies with 90% efficiency. They also incorporate Post Consumer Content (PCC) and comply with greener standards such as EPEAT® Gold, ENERGY STAR® 5.0 and GREENGUARD®.

The ThinkStation C20 and C20x are two power-packed workstations available in the smallest possible footprint, multiplying return on investment without consuming valuable office space!

USER-FRIENDLY FEATURES

- Spill-resistant, recessed handle for easy racking and improved size optimization
- Tool-less components for fast and easy upgrades and maintenance
- Illuminated I/O icons for hassle-free connectivity
- Recessed power button to avoid accidental shutdown
- Rotatable ThinkStation® logo for rack implementations
- Rotatable ODD cage (for right/left side access)³

PERFORMANCE AND RELIABILITY FEATURES

- Intel® Xeon® 5600 series processors with Turbo Boost Technology, offering up to 24 threads
- Genuine Windows® 7 Professional 64-bit (preload)
- ECC memory – supports up to 96GB 1333MHz DDR3
- Partnered with NVIDIA® and ATI® for Professional-grade workstation graphics solutions
- Tri-channel cooling³ – extends the product life

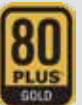
GREEN FEATURES

- EPEAT® Gold
- Many ENERGY STAR® 5.0 models
- GREENGUARD®
- Recycled Plastic Usage featuring Post Consumer Content (PCC)
- 80 Plus Gold-certified power supply with 90% efficiency

1 Among tier 1 OEMs (Dell, HP and Lenovo), Dell is 46% and HP is 31% volumetrically larger. Further, Lenovo can fit 14 systems in a 42U rack unlike Dell and HP which can fit only 10 systems.

2 The ThinkStation C20x supports 130W CPUs (HP does not), Tesla™ (HP does not), up to 12 DIMMs (HP has 6 while Dell has 9), 3 HDD bays (HP has 2), up to 2 FX4800 class graphics – 300W (HP support up to 1 FX4800 class – 150W)

3 Patent pending



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LENOVO® THINKSTATION® C20/C20x SPECIFICATIONS

DESCRIPTION	C20	C20x
Processor	<ul style="list-style-type: none"> Intel® Xeon® E5620 – 4 Core™ – 2.40GHz – DDR3 1066MHz – Turbo – 80W Intel® Xeon® E5630 – 4 Core™ – 2.53GHz – DDR3 1066MHz – Turbo – 80W Intel® Xeon® E5640 – 4 Core™ – 2.66GHz – DDR3 1066MHz – Turbo – 80W Intel® Xeon® X5650 – 6 Core™ – 2.66GHz – DDR3 1333MHz – Turbo – 95W Intel® Xeon® X5660 – 6 Core™ – 2.80GHz – DDR3 1333MHz – Turbo – 95W Intel® Xeon® X5667 – 4 Core™ – 3.06GHz – DDR3 1333MHz – Turbo – 95W Intel® Xeon® X5670 – 6 Core™ – 2.93GHz – DDR3 1333MHz – Turbo – 95W 	<ul style="list-style-type: none"> Intel® Xeon® E5620 – 4 Core™ – 2.40GHz – DDR3 1066MHz – Turbo – 80W Intel® Xeon® E5630 – 4 Core™ – 2.53GHz – DDR3 1066MHz – Turbo – 80W Intel® Xeon® E5640 – 4 Core™ – 2.66GHz – DDR3 1066MHz – Turbo – 80W Intel® Xeon® X5650 – 6 Core™ – 2.66GHz – DDR3 1333MHz – Turbo – 95W Intel® Xeon® X5660 – 6 Core™ – 2.80GHz – DDR3 1333MHz – Turbo – 95W Intel® Xeon® X5667 – 4 Core™ – 3.06GHz – DDR3 1333MHz – Turbo – 95W Intel® Xeon® X5670 – 6 Core™ – 2.93GHz – DDR3 1333MHz – Turbo – 95W Intel® Xeon® X5677 – 4 Core™ – 3.46GHz – DDR3 1333MHz – Turbo – 130W Intel® Xeon® X5680 – 6 Core™ – 3.33GHz – DDR3 1333MHz – Turbo – 130W
Operating System	<p>Preloaded:</p> <ul style="list-style-type: none"> Genuine Windows® 7 Professional 64-bit Lenovo Enhanced Experience <p>Supported:</p> <ul style="list-style-type: none"> Genuine Windows® XP Pro 32-bit Genuine Windows® XP x64 Edition Red Hat® Enterprise Linux® 5 	
Chipset	<ul style="list-style-type: none"> Intel® 5520 SATA/SAS Connectors: 1 eSATA, 5 SATA Gen 2 Max Memory: 48GB 	<ul style="list-style-type: none"> Intel® 5520 SATA/SAS Connectors: 1 eSATA, 5 SATA Gen 2, 5 SAS Max Memory: 96GB
Machine Type	<ul style="list-style-type: none"> 4263 – 3/3 Onsite Warranty 4265 – TopSeller w/ 3/3 Onsite Warranty 	<ul style="list-style-type: none"> 4269 – 3/3 Onsite Warranty 4272 – TopSeller w/ 3/3 Onsite Warranty
Memory 6 DIMM Slots on C20 12 DIMM Slots on C20x <i>(Note: Mixing of UDIMM and RDIMM not supported)</i>	<ul style="list-style-type: none"> 1GB DDR3 ECC 1333MHz UDIMM 2GB DDR3 ECC 1333MHz UDIMM 4GB DDR3 ECC 1333MHz UDIMM 1GB DDR3 1333MHz RDIMM 2GB DDR3 1333MHz RDIMM 4GB DDR3 1333MHz RDIMM 8GB DDR3 1333MHz RDIMM 	
Dimensions (H x W x D) mm	<ul style="list-style-type: none"> 427 x 130 x 444 	

DESCRIPTION	C20	C20x
Power Supply	<ul style="list-style-type: none"> 800W 80 PLUS GOLD Certified PSU - 90% Efficient 	
Optical Drive	<ul style="list-style-type: none"> DVD-ROM Drive - SATA DVD Burner/CD-RW Rambo 8 – SATA Blu-ray™ Disc Burner - SATA 	
Hard Drive (Up to 3 HDDs Supported) <i>(Note: Mixing of SAS and SATA drives not supported)</i>	<ul style="list-style-type: none"> 250GB SATA – 7200 RPM – 8MB cache - 3.5" 500GB SATA – 7200 RPM – 16MB cache – 3.5" 1TB SATA – 7200 RPM – 16MB cache – 3.5" 150GB SATA – 10K RPM – 16MB cache – 2.5" 300GB SATA – 10K RPM – 16MB cache – 2.5" 128GB SATA Solid State Drive – MLC Type – 1.8" 160GB SATA Solid State Drive – MLC Type – 1.8" 256GB SATA Solid State Drive – MLC Type – 1.8" 	<ul style="list-style-type: none"> 250GB SATA – 7200 RPM – 8MB cache - 3.5" 500GB SATA – 7200 RPM – 16MB cache – 3.5" 1TB SATA – 7200 RPM – 16MB cache – 3.5" 150GB SATA – 10K RPM – 16MB cache – 2.5" 300GB SATA – 10K RPM – 16MB cache – 2.5" 128GB SATA Solid State Drive – MLC Type – 1.8" 256GB SATA Solid State Drive – MLC Type – 1.8" 300GB SAS – 15K RPM – 32MB cache – 3.5" 450GB SAS – 15K RPM – 32MB cache – 3.5"
Integrated Communications	<p>Ethernet:</p> <ul style="list-style-type: none"> Broadcom 5755 <p>Optional PCI/PCIe Adapters:</p> <ul style="list-style-type: none"> Soft Modem V.90/V.44 	<p>Ethernet:</p> <ul style="list-style-type: none"> Broadcom 5755 Broadcom 5754 <p>Optional PCI/PCIe Adapters:</p> <ul style="list-style-type: none"> IEEE 1394 Firewire Adapter Soft Modem V.90/V.44
Slots	<ul style="list-style-type: none"> Gen 2 PCIe x16: 2 PCIe x4: 1 (x16 physical) PCIe x1: 2 PCI Slots: 2 	
Bays	<ul style="list-style-type: none"> 3.5" Internal Bays: 3 5.25" External Bays: 1 	
Keyboard	<ul style="list-style-type: none"> Lenovo Preferred Full-size Keyboard - USB 	
Mouse	<ul style="list-style-type: none"> Lenovo Optical Wheel Mouse – 400 DPI - USB 	
Graphic Card	<ul style="list-style-type: none"> NVS290: 256MB, DMS-59 to Dual DVI NVS295: 256MB Dual DP NVS450: 512MB, Quad DP FireMV 2260: 256MB, Dual DP FX380: 256MB, Dual DVI FX580: 512MB, DVI + Dual DP FX1800: 768MB, DVI + Dual DP FX4800 (SLI Available): 1.5GB, DVI + Dual DP + ST 	
Compute Adapters	<ul style="list-style-type: none"> NVIDIA® Tesla™ C1060 Compute Card 	



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LENOVO® THINKSTATION® C20/C20x OPTIONS

MONITORS

Lenovo ThinkVision® L2440p Monitor (4420HB2)	Is 24" Wide with 1920 x 1200 resolution for productivity
	Has VGA + DVI-D interfaces and USB hub for flexible connection
	Is EPEAT® Gold, TCO Displays 5.0 Certified
Lenovo ThinkVision® L2251p Monitor (2572HD6)	Is 22" Wide with 1680 x 1050 resolution
	Has VGA + DisplayPort interfaces for easy, dual-monitor display
	Comes with a full-function ergonomic stand
	Is 29% more efficient than ENERGY STAR® 5.0 standard

www.lenovo.com/support/monitors

GRAPHIC CARDS

NVIDIA® Quadro® NVS 450 Quad-DisplayPort, Quad-DVI-D (57Y4398)	Supports four DisplayPort monitors with 2560 x 1600 resolution
	Includes four DisplayPort to Single-Link DVI-D cables for four digital 1920 x 1200 monitors
	Supports up to have eight monitors by installing two graphics cards
NVIDIA® Quadro® NVS 295 Dual-DisplayPort (45K1669)	Supports two DisplayPort monitors with 2560 x 1600 resolution
	Offers a fanless design for quieter desktop operation
NVIDIA® Quadro® NVS 290 Dual-DVI, Dual-VGA (43R1765)	Supports two digital or analog monitors
	Offers a fanless design for quieter desktop operation
NVIDIA® Quadro® FX 4800 DVI, Dual-DisplayPort (45K1669)	For extreme 3D CAD and DCC environments
	Supports two 2560 x 1600 resolution monitors
	Dynamically scales graphic performance with optional NVIDIA® SLI Connection Adapter (55Y8963) by installing two graphics cards
NVIDIA® Quadro® FX 1800 DVI, Dual-DisplayPort (45K1762)	Is used in mid-range 3D CAD and DCC environments
	Supports two 2560 x 1600 resolution monitors
NVIDIA® Quadro® FX 580 DVI, Dual-DisplayPort (45K1761)	Is used in entry-range 3D CAD and DCC environments
	Supports two 2560 x 1600 resolution monitors

www.lenovo.com/support/graphiccards

MEMORY ACCESSORIES

Low-cost method to boost overall system performance For information on memory configuration, operation and limitations, go to: www.lenovo.com/support/thinkstationaccessories	57Y4425	2GB PC3-10600 DDR3-1333 ECC RDIMM
	57Y4426	4GB PC3-10600 DDR3-1333 ECC RDIMM
	57Y4427	8GB PC3-10600 DDR3-1333 ECC RDIMM
	43R2033	2GB PC3-10600 DDR3-1333 ECC UDIMM
	57Y4138	4GB PC3-10600 DDR3-1333 ECC UDIMM

www.lenovo.com/support/thinkstationaccessories

STORAGE ACCESSORIES

High-performance hard disk drives (7200 and 10K RPM) that complement the ThinkStation's performance	43R1990	500GB 7200 RPM SATA
	43R1991	750GB 7200 RPM SATA
	45J7918	1TB 7200 RPM SATA
	43R2031	300GB 10K RPM SATA

SAS HDDs Available on C20x
www.lenovo.com/support/storage

SECURITY ACCESSORIES

Lenovo Fingerprint USB Keyboard (73P4730) www.lenovo.com/support/security	Replaces Microsoft® Windows® Passwords with fast, secure access using your fingerprint
	Is software configurable for simple fingerprint log-in only or secure authentication
Kensington MicroSaver Security Cable lock by Lenovo (73P2582)	Secure the ThinkStation or ThinkVision® Flat panel monitor
	Is a super-strong steel composite cable with carbon tempered steel core
Kensington Twin Head Security Cable Lock by Lenovo (45K1620)	Secure the ThinkStation and the ThinkVision Flat panel monitor
	Second lock moves along the cable for user adjustment and preference

www.lenovo.com/support/security

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