



IBM IntelliStation Z Pro with Intel Xeon processor featuring Intel Extended Memory 64 Technology



L200p ThinkVision monitor available separately.

**IBM recommends Microsoft®
Windows® XP Professional
for Engineering.**

Turning the tide

As technical applications have matured, the bounds of 32-bit computing have become a daily reality – memory swapping for complex 3D models, glacial rendering times, elaborate workarounds – not merely a theoretical limit. Meanwhile, UNIX® shops coveting the mounting advantages of mainstream workstations count their own woes, from high initial cost to lagging graphics performance. The transition to a standards-based 64-bit solution is no longer deadlocked in an either/or world, because IBM stepped up early to help turn the tide.

Highlights • Z Pro 6223

- **Intel® Extended Memory 64 Technology (EM64T) for simultaneous 32-bit and 64-bit application compatibility¹**
- **Intel Xeon™ processor up to 3.6GHz with up to 2MB L2 cache**
- **Intel E7525 chipset supports up to 16GB² PC2-3200 ECC DDR2 memory, an 800MHz system bus, and PCI Express x16 graphics**
- **Choice of dual-channel Ultra320 SCSI or SATA hard disk drives; HostRAID support Level 0, 1 integrated**
- **Choice of PCI Express x16 graphics from ATI, NVIDIA, and 3DLabs approaching twice the bandwidth of AGP 8X; dual-display support; drivers for Microsoft Windows and Linux®**
- **Microsoft Windows XP Professional (32-bit) or Red Hat Enterprise Linux 3 WS (32-bit) available preinstalled.**

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today**

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The best of both worlds

Consider the IntelliStation Z Pro with Intel Xeon processor, featuring Intel EM64T. Set a faster pace with familiar 32-bit software while growing into key 64-bit applications, optimising your workflow and maximising return on investment (ROI). With IBM, it's all about making the choice easy: 32- and 64-bits, Microsoft Windows and Red Hat Linux, 2D and 3D graphics tuned to your applications – whatever's best for you.

The perfect storm

The strong centre of the 64-bit IntelliStation Pro workstation line from IBM, the Z Pro invokes the latest technologies from the jet stream of innovation. Driving the tempest are single or dual Xeon processors up to 3.6GHz with full-speed L2 cache up to 2MB, a trio of second-generation PCI Express x16 graphics adapters from

ATI, NVIDIA, and 3Dlabs, and fast SATA or faster dual-channel Ultra320 SCSI storage. The Intel E7525 chipset underpins this cauldron of energy, supporting up to 16GB of DDR2 memory² and an 800MHz system bus to channel the flood of data. Wrapped in a full-featured 6-slot/6-bay mini-tower, the Z Pro boasts handy front-mounted ports and status lights, tool-free access for upgrades, and an available rackmount kit to conceal the source of your supernatural powers discreetly backstage.

The 64-bit solution

The transition to standards-based 64-bit computing is new ground to some workstation vendors. You have a decision to make: Who will see you through? From the IntelliStation POWER series with Linux-friendly 64-bit

AIX 5L, to the industry-leading IntelliStation A Pro with 64-bit Red Hat Enterprise Linux 3 WS, to the IntelliStation Z Pro with Intel EM64T, you'll be joining a tradition of 64-bit excellence. Because IBM experience – from research to service³ and support to strategic independent software vendor (ISV)⁴ relationships – counts for more with 64.

On demand express portfolio built for small and mid-sized business

Select configurations of the IntelliStation Z Pro workstation are part of the IBM Express Portfolio, designed, developed and priced to meet the specific needs of small and mid-sized businesses. The IBM Express Portfolio of solutions are easy to acquire, install and manage and are competitively priced. Express models and configurations vary by country.



The IntelliStation Pro family of workstations, from left to right: IntelliStation A Pro, M Pro, and Z Pro flanked by IBM IntelliStation T221 Precision Flat Panel Monitors

IBM IntelliStation Z Pro with Intel Xeon processor • Model 6223 technical specifications

Processor	Intel Xeon processor up to 3.6GHz, dual-capable with Intel EM64T and Hyper-Threading Technologies
Cache	Full-speed 1MB or 2MB L2 cache
Core logic	Intel E7525 chipset; 800MHz system bus; DDR2 memory support
Memory (std/max)	1GB or 2GB/16GB ² PC2-3200 ECC DDR2 SDRAM; dual-channel; 6 DIMM slots total
Available graphics	Standard features: PCI Express x16 support, certified OpenGL drivers ⁴ , dual-display capable Extreme 3D: 3DLabs Wildcat Realism 800, 640MB GDDR3 (512MB unified, 128MB Direct Burst) High Advanced 3D: ATI FireGL V7100, 256MB GDDR3 SDRAM, 493MHz core clock Advanced 3D: NVIDIA Quadro FX 1400, 128MB DDR SDRAM, 350MHz core clock Performance 2D: NVIDIA Quadro NVS 280, 64MB DDR SDRAM, 250MHz GPU core
Power supply	530W with temperature-controlled variable-speed fans
S.M.A.R.T.⁵ Hard disk drives⁶	SATA: 80GB/7,200rpm; up to 250GB/7,200rpm (optional) Ultra320 SCSI: 73GB/10K (15Krpm optional); 146GB/10K rpm (optional)
Controllers	SATA and dual-channel 64-bit Ultra320 SCSI integrated; HostRAID Level 0, 1 integrated
Optical storage^{7,8}	One of the following standard: 48X-20X CD-ROM; up to 48X/32X/48X CD-RW; up to 48X/32X/48X/16X CD-RW/DVD-ROM combination drive; Multi-Burner DVD-CD RW
Slots (total/open)	6 slots: (1/0) PCI Express x16, (1/1) 64-bit/133MHz PCI-X, (2/2) 64-bit/100MHz PCI-X; (2/2) 32-bit/33MHz PCI
Bays (total/open)	6 bays: (3/2) 3.5" internal, (1/1) 3.5" external, (2/1) 5.25" external
Network interface	Integrated high-bandwidth Gigabit Ethernet with Wake on LAN
Ports	6 USB 2.0 (2 front, 4 back); 2 IEEE 1394 (1 front, 1 back); 2 serial; 1 parallel; external Ultra320 SCSI interface kit (optional)
Audio	AC-97 audio, microphone in (1 front/1 back), line in/out, headphone jack, integrated speaker
Operating system	Microsoft Windows XP Professional (32-bit) or Red Hat Enterprise Linux 3 WS (32-bit) preinstalled
Supported applications	Visit ibm.com/pc/us/solutions/intellistation for the latest list of engineering, electronic design automation, digital media, geophysical and life science applications.
Universal manageability	Visit ibm.com/pc/us/intellistation/benefit for the latest information on Universal Manageability tools.
Options by IBM	IBM IntelliStation Precision monitor: T221 22.2" TFT with 9.2 megapixels (9503-DG5) IBM ThinkVision Performance monitors: L200p (20.1" TFT), L191p (19" TFT), C220p 22" CRT (20" VIS) (6736-HC9, 9419-HB7, 6735-60N) IBM Memory Kits: 1GB, 2GB, 4GB PC2-3200 ECC DDR2 SDRAM (73P2865, -66, -77) Second Intel Xeon processor: 3.4GHz, 3.6GHz (13N0674, 13N0675) IBM SpaceBall 4000 3D input device (33L3252) Visit ibm.com/options for a complete list of compatible options
Rack mounting	Rack Kit (13N2455), NetBAY Rack with perforated front door (9306420)
Standards supported	FCC Part 15, Class A; UL 1950 First Edition, CSA c22.2 No. 950; ISO 9241 capable; ANSI S1210

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¹ Requires a compatible 64-bit operating system.

² Maximum physical memory is currently 16GB contingent on general availability of 4GB memory modules, running under select 64-bit Linux distributions; addressable capacity is less. Under select 32-bit Linux distributions, maximum physical memory is 16GB contingent on general availability of 4GB memory modules, with a maximum of 3GB allocated per thread. Maximum physical memory is 4GB running under Microsoft Windows XP Professional operating system; addressable capacity is less.

³ Visit **ibm.com/pc/safecomputing** periodically for the latest information on safe and effective computing. For a copy of applicable product warranties, write to: Warranty information, P.O. Box 12195, RTP, NC 27709, Attn: Dept. JDJA/B203. IBM makes no representation or warranty regarding third-party products or services. With respect to onsite services, a technician is sent after IBM attempts to resolve the problem remotely.

⁴ Certifications are issued by the supplier of the application, driver, or operating system, and not IBM.

⁵ Self-Monitoring, Analysis and Reporting Technology.

⁶ GB equals one thousand million bytes when referring to hard disk drive capacity. Accessible capacity is less.

⁷ Variable read rate. Actual playback speed will vary and is often less than the maximum possible.

⁸ Up to 48X CD-R write speed; up to 32X CD-RW rewrite speed; variable read rate 48X-20X. Actual playback speed will vary and is often less than the maximum possible. The read and write results of the CD-RW drive depend upon the quality and characteristics of the media used; results may vary between media suppliers.