



IBM IntelliStation Pro Workstations

Quick Reference Guide

32-/64-bit workstations

Monitors and SpaceBall available separately

Ultimate dual-core, dual-processor performance with AMD64



Scalable dual-processor performance with Intel EM64T



Compelling dual-core price/performance with Intel EM64T



Model	A Pro 6217 minitower (rack-mountable)	Z Pro 6223 minitower (rack-mountable)	M Pro 6218 minitower (rack-mountable with shelf)
Processor(s)	AMD® Opteron™ Models 250 2.4 GHz, 252 2.6 GHz, 254 2.8 GHz, dual-capable Models 275 2.2 GHz, 280 at 2.4 GHz, dual-core/dual-capable	Intel® Xeon® up to 3.8 GHz, dual-capable	Intel Pentium® 4 up to 3.6 GHz Dual-core at 3.2 and 3.4 GHz
Cache	1MB L2 cache per processor core	Up to 2MB L2 cache	2MB L2 cache per processor core
Chipset	AMD-8000™ with up to 2.8 GHz system bus AMD64, Direct Connect and HyperTransport™ Technology	Intel E7525 with 800 MHz system bus Intel Extended Memory 64 Technology	Intel 955X with 800 MHz system bus Intel Extended Memory 64 Technology
Memory¹	PC-3200 ECC DDR SDRAM std: 2, 4, 8GB (8 DIMMs) max: 16GB ⁴	PC2-3200 ECC DDR II SDRAM std: 1GB, 2GB (6 DIMMs) max: 16GB ⁵	PC-4200 ECC DDR II SDRAM std: 1GB, 2GB (4 DIMMs) max: 8GB ⁶
S.M.A.R.T.² Hard disk drives³ (std/maximum per bay)	Serial ATA: 80GB/7,200 rpm; 250GB Ultra320 SCSI: 73GB/10K rpm; 300GB HostRAID Level 0, 1 support integrated	Serial ATA: 80GB/7,200 rpm; 250GB Ultra320 SCSI: 73GB/10K rpm; 300GB HostRAID Level 0, 1 support integrated	Serial ATA: 80GB/7,200 rpm; 250GB Ultra320 SCSI: 73GB/10K rpm; 300GB SAS: (Optional) 146GB/15K rpm or 300GB 10K rpm HostRAID Level 0, 1 support integrated
Total System Storage³	SATA: 1TB; SCSI: 1.2TB	SATA: 1TB; SCSI: 1.2TB	SATA: 1TB ³ ; SCSI: 900GB; SAS: 900GB
Slots (total/open)	6 slots/5 open: PCI Express x16 (1/0) PCI-X 64-bit/100 MHz (4/4) PCI-X 64-bit/133 MHz (1/1)	6 slots/5 open: PCI Express x16 (1/0) PCI 32-bit/33 MHz (2/2) PCI-X 64-bit/100 MHz (2/2) PCI-X 64-bit/133 MHz (1/1)	4 slots/3 open: PCI Express x16 (1/0) PCI Express x4 (1/1; x8 mechanical) PCI Express x1 (1/1) PCI 32-bit/33 MHz (1/1)
Bays (total/open)	6 bays/4 open: 3.5" internal (3/2) 3.5" external (1/1) (diskette optional) 5.25" external (2/1)	6 bays/4 open: 3.5" internal (3/2) 3.5" external (1/1) (diskette optional) 5.25" external (2/1)	5 total/3 open: 3.5" internal (2/1) 3.5" external (1/1) (diskette optional) 5.25" external (2/1)
Graphics solutions*	2D: N-285 Advanced 3D: N-FX1400 High-Advanced 3D: N-FX3400 Extreme 3D: N-FX4500	2D: N-280 Advanced 3D: N-FX1400 High-Advanced 3D: FGL-7100 Extreme 3D: Realizm® 800	2D: N-285 Advanced 3D: N-FX1400 Extreme 3D: N-FX4500
Power supply	530W	530W	400W
Operating system preinstalled	Red Hat® Enterprise Linux® 4 WS (64-bit) or Microsoft® Windows® XP Professional x64 Edition	Red Hat Enterprise Linux 3 WS (32-bit) or Microsoft Windows XP Professional (32-bit)	Microsoft Windows XP Professional (32-bit) or x64 Edition Red Hat Enterprise Linux 4 WS (32-bit)

*IntelliStation® Pro graphics

All graphics adapters support dual displays; 3D accelerators support OpenGL

Performance 2D	N-280	NVIDIA® Quadro® NVS 280, 64MB DDR SDRAM, 250 MHz core clock	PCI Express x16
	N-285	NVIDIA Quadro NVS 285, 64MB DDR SDRAM, 275 MHz core clock	PCI Express x16
Advanced 3D	N-FX1400	NVIDIA Quadro FX 1400, 128MB DDR SDRAM, 350 MHz core clock	PCI Express x16
High-Advanced 3D	N-FX3400 FGL-7100	NVIDIA Quadro FX 3400, 256MB DDR3 SDRAM, 350 MHz core clock ATI FireGL V7100, 256MB GDDR3 SDRAM, 493 MHz core clock	PCI Express x16 PCI Express x16
Extreme 3D	N-FX4500 Realizm 800	NVIDIA Quadro FX 4500, 512MB GDDR3 SDRAM, 470 MHz core clock 3Dlabs® Wildcat™ Realizm 800, 640MB GDDR3 SDRAM (512MB unified, 128 Direct Burst)	PCI Express x16 PCI Express x16

Featured certified or compatible applications^{6,7,8}

For a complete list of certified and compatible applications, visit:
ibm.com/servers/intellistation/pro/isv

Digital media	3D Modeling-Animation-Effects: • Alias: Maya, StudioTools • Discreet: 3ds max • Side Effects: Houdini • Softimage: XSI Video Editing-Compositing-Effects: • Avid: XpressDV Pro • Digital Rapids: StreamZHD • Discreet: Smoke, Lustre, Combustion, Flint • Leitch: VelocityHD, Digital Fusion • Linux Media Arts: Cinelerra • Matrox: RT.X100, Matrox Axio HD with Adobe Premiere Pro • VizRT: vizrt
Engineering	• IBM/Dassault Systèmes: CATIA Version 5 • ANSYS: ANSYS • Autodesk, Inc.: AutoCAD, Inventor • ColCreate: OneSpace Designer • MSC: MSC.Nastran • PTC: Pro/ENGINEER • UGS: NX, I-deas NX Series • SolidWorks Corporation: SolidWorks
EDA	• Cadence Design Systems • Mentor Graphics • Synopsys
Life Science	• Accelerlys: Discovery Studio, Catalyst, Insight II • Tripos: Sybyl • CCG: MOE
Oil & Gas	• Landmark Graphics: Desktop Linux Suite, GeoProbe • Schlumberger: GeoFrame • Paradigm Geophysical: VoxelGeo

Standard features on IntelliStation Pro workstations

Network interface	Gigabit Ethernet with Wake on LAN®
Certified⁷ operating systems	Microsoft Windows XP Professional (32-bit), Windows XP Professional x64 Edition Red Hat Enterprise Linux 3 WS (32-bit; 64-bit on select systems) Red Hat Enterprise Linux 4 WS (32-bit or 64-bit on select systems)
Audio	AC '97, microphone in, line in, line out, headphone jack, integrated speaker
Warranty⁹	Three-year limited warranty on parts and onsite labor
IBM Universal Manageability	Visit ibm.com/servers/eserver/xseries/systems_management/director_4.html for the latest information on IBM tools

IBM IntelliStation accessories and upgrades¹⁰

ECC DDR memory

A Pro 6217	512MB, 1GB, 2GB PC-3200 CL3 ECC DDR SDRAM
Z Pro 6223	512MB, 1GB, 2GB, 4GB PC2-3200 ECC DDR II SDRAM
M Pro 6218	512MB, 2GB, 4GB PC-4200 ECC DDR II SDRAM

Second processor

A Pro 6217	AMD Opteron with AMD64 Models 250 at 2.4 GHz, 252 at 2.6 GHz, 254 at 2.8 GHz AMD Opteron Dual-Core Model 275 at 2.2 GHz, 280 at 2.4 GHz
Z Pro 6223	Intel Xeon at 3.0, 3.2, 3.4, 3.6 and 3.8 GHz with Intel EM64T

Hard disk drives⁸	Ultra320 SCSI: 73, 146, 300GB at 10K rpm Serial ATA: 160, 250GB at 7,200 rpm SAS: 36, 73, 146GB at 15K rpm; 73, 146, 300GB at 10K rpm
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3D pointing device	IBM SpaceBall® 4000
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Rack mount kit	Rack mount kit for IntelliStation A Pro, Z Pro; M Pro (shelf)
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For a complete list of custom components and accessories for your IBM IntelliStation, visit ibm.com/pc/us/accessories/intellistation/

Visit ibm.com/intellistation for more information.

IBM recommends Microsoft Windows XP Professional for Engineering.

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- ¹ Maximum memory may require replacement of standard memory with optional maximum memory module.
- ² Self-Monitoring, Analysis and Reporting Technology.
- ³ MB, GB and TB = 1,000,000, 1,000,000,000, and 1,000,000,000,000 bytes respectively, when referring to storage capacity. Accessible capacity is less; up to 3GB is used in service partition. Actual storage capacity will vary based upon many factors and may be less than stated. Maximum internal hard disk drive capacity assumes the replacement of any standard hard disk drive and the population of all hard disk drive bays with the largest currently supported drives available from IBM. IntelliStation M Pro total system storage of 1TB for SATA hard drives requires optional IBM ServeRAID-7T SATA Controller (part 71P8648).
- ⁴ IntelliStation A Pro maximum physical memory is 8GB per processor socket (16GB total) running under Microsoft Windows XP Professional x64 Edition and select 64-bit Linux distributions; addressable capacity is less. Maximum physical memory is 4GB running under Microsoft Windows XP Professional 32-bit operating system; addressable capacity is less.
- ⁵ IntelliStation Z Pro maximum physical memory is currently 16GB contingent on general availability of 4GB single rank memory kits, running under Microsoft Windows XP Professional x64 Edition and 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 single rank memory kits with a maximum of 3GB allocated per thread. Maximum physical memory is 4GB running under Microsoft Windows XP Professional 32-bit operating system; addressable capacity is less.
- ⁶ IntelliStation M Pro maximum physical memory is 4GB running under Microsoft Windows XP Professional 32-bit operating system, or 8GB under Microsoft Windows XP Professional x64 Edition; addressable capacity is less. Maximum memory is 8GB running under select 64-bit Linux distributions.
- ⁷ Certifications are issued by the supplier of the operating system, device driver, or application, and not IBM. Certifications vary by model.
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- ⁹ For information regarding the IBM statement of limited warranty, please call 1 800 772-2227 or contact your reseller. With respect to onsite service, a technician is sent after IBM attempts to diagnose and resolve the problem remotely.
- ¹⁰ See ibm.com/options for model compatibility.

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