

Dell Precision™ Workstation 450



**Performance-Optimized Dual
Processor Workstation For
Space-Constrained or Rackable
Environments**

The Performance You Need. . .

Business critical applications need the extra edge:

The Dell Precision Workstation 450 incorporates the latest technology advancements designed to deliver the maximum performance needed for your demanding applications, but in a chassis that is small enough to accommodate even the most challenging of work environments. Purchasing a Dell Precision workstation which is not only optimized for your high performance environments, but which is certified and optimized for your software applications, can help increase user productivity and allow for more time to increase the quality of the work. And in the case of users in business-critical jobs, that performance edge can make the difference between making the trade or hitting the production deadline and not.

Latest workstation performance architecture

The 450 includes support for the new Intel™ Xeon™ processors which bring the benefit of 533 MHz Front Side Bus (FSB) and a 512K Level 2 cache technology (3.06GHz and 3.20GHz processors with 1MB Level 3 cache available). With the addition of Intel's new core logic chip, the E7505, the Dell Precision 450 also delivers support for up to 4GB of dual channel Double Data Rate memory, running at 266MHz. This balanced architecture helps eliminate the bottlenecks associated with slower, single channel memory solutions that cannot harness the full power of the Xeon processor.

The ability to transfer large amounts of data quickly is also of significant value to workstation users. To meet the needs of these bandwidth-hungry users, the 450 delivers Intel's Gigabit² networking technology, which greatly increases the speed at which they can transfer large files over a Gigabit¹ network. Moreover, the 64-bit PCIx slot is perfectly suited for an add-in Gigabit² Ethernet card for users in truly business-critical roles who need the speed and the fail-safe redundancy dual Gigabit can provide.

The 64-bit PCIx slot can provide substantial performance enhancements (vs 32bit PCI) for other add in cards, such as the latest U320 SCSI and RAID adapters, which are used in a number of applications from digital content creation to complex financial modeling. The PCIx slot is even built on an independent bus from the other standard system I/O and 32-bit PCI slots to help deliver users maximum performance for their highest-end PCI cards.

...In a Compact, Flexible Chassis

While many users require the performance a Dell Precision workstation can deliver, they may also work in complex environments where space is a precious commodity. For users such as stock brokers working on a packed trading floor or video editors requiring high-density workstation clusters for complex video compositing, the Dell Precision 450 offers a small, rackable chassis to suit even the most challenging of dual-processing needs. At 3.8u (6.5" high), the Dell Precision 450 is among the smallest (and quietest!) dual processing workstations available.

Workstation-Class Graphics

The Dell Precision 450 offers a choice of the latest generation of high-performance workstation-class AGP 8X Pro50 graphics cards, all of which support dual monitor configurations. The new 128MB nVidia QuadroFX 1000 provides exceptional OpenGL 3D performance with unprecedented features. For additional specialized features the 3Dlabs 256MB Wildcat4 7110 card is also offered. The ATI Fire GL X1 mid-range card delivers an excellent price/performance solution for the demanding 3D user, while the new 128MB nVidia QuadroFX 500 delivers quality 3D performance at an entry level price. Rounding out the 450 graphics offerings, nVidia's 64MB Quadro NVS 280 is available for customers who desire a low cost card that provides great 2D performance with optional dual monitor capability.

ISV Application Certification

Dell partners with leading workstation Independent Software Vendors (ISVs) to certify system and application compatibility, align product roadmaps to ensure future system requirements are met and to improve the customers' experience. Dell Precision's ISV partners include: ADOBE - Premiere; ALIAS WAVEFRONT - Maya; ANSYS - Multiphysics, Designspace; AutoDesk - AutoCAD, Inventor, Discreet - 3ds max, AVID - Softimage XSI, Softimage 3D; Bentley - Microstation; Dassault - Catia V5, Enovia DMU, SolidWorks; EDS - Unigraphics, I-deas, Solid Edge; ESRI - Arc/INFO, Arc/View; FLUENT; LANDMARK GRAPHICS; MSC - Nastran, Patran; Newtek - Lightwave and PTC - Pro/Engineer, Wildfire, and Mechanica.

Scalable Design

The Dell Precision 450's scalable architecture allows the user to configure the machine to best meet their specific workstation requirements. From a minimum single processor solution with ISV certifications and a dedicated workstation tech support phone queue, to a dual processor performance powerhouse configured for the most demanding applications, the Dell Precision 450 can easily scale to your unique workstation needs. In addition to the ability to select from multiple graphics options, the 450 supports high-performance PCIx cards and up to three hard drives to tackle even the most demanding storage requirements. The 450 also supports numerous removable storage options, from the versatile DVD + RW² drive to standard Zip 250 devices.

Rich and reliable manageability features

Dell follows open industry standards for system management and network administration, like ASF, WFM and CIM, to help ensure that your new system integrates seamlessly with other open industry standard systems on your existing network. The Dell OpenManage™ suite of products deliver software and hardware management features designed to help lower your TCO and keep your workforce productive and current by enabling mass system updates, providing system alerts and allowing for after hours software updates/imaging.

3 Years Service

Award-winning service and support with a dedicated workstation phone queue and 3 year Next Business Day On-site⁴ service.



Easy as **DELL**™

For more information, visit www.dell.com

Dell Precision Workstation 450

SYSTEM

Processor .....	..Up to two Intel® Xeon™ processors with 533MHz front side bus and 512KB L2 cache (Optional 3.06GHz and 3.20GHz with 1MB L3 Cache)
Operating Systems .....	..Microsoft Windows® XP Professional; Microsoft Windows 2000 Professional; Red Hat Linux Dell recommends Microsoft® Windows® XP Professional
Chipset .....	..Intel E7505 chipset
Memory .....	..256MB non-ECC 266 MHz DDR memory standard; 4 DIMM slots - 4GB ECC or non-ECC maximum: 128MB, 256 MB, 512MB, or 1 GB DIMM, low latency unbuffered memory
Flash BIOS .....	..4MB Flash memory for system BIOS, setup, Plug-and-Play DMI 2.0s (optional) and SMBIOS 2.3.1 support
Graphics Support .....	..nVidia Quadro NVS 280 64MB, AGP 8X, Dual Monitor (VGA or optional DVI or VGA) nVidia QuadroFX 500 , AGP 8X, 128MB, Dual Monitor (VGA or DVI/VGA) ATI Fire GL X1, AGP 8X, 128MB, Dual Monitor (VGA or DVI) nVidia QuadroFX 1000 AGP 8X, 128MB Dual Monitor (VGA or DVI) 3Dlabs Wildcat 7110 AGP 8X, 256MB Dual Monitor (VGA or DVI)
Hard Drives .....	..Enhanced IDE S.M.A.R.T. II ATA/100, 7,200 RPM: 20GB, 40GB, 80GB, 120GB (includes 8MB DataBurst Cache) <u>Ultra 320 SCSI:</u> 10,000RPM: 36GB, 146GB; 15,000RPM: 36GB, 73GB Serial ATA/150, 10,000 RPM 36GB drive includes 8MB DataBurst Cache
Hard Drive Controller .....	..Integrated dual channel/connector, bus mastering ATA/100 Optional Ultra 320 SCSI PCI Controller
Network Controller .....	..Integrated PCIx 64-bit Intel 10/100/1000 Gigabit ² Ethernet
Audio Controller .....	..Integrated Analog Devices AC'97 Audio Optional Sound Blaster® Audigy II with onboard 1394
Standard I/O Ports .....	..USB 2.0 (6), serial (2), parallel, PS/2 keyboard, PS/2 mouse, RJ-45, 1.44MB floppy, stereo line-in (minijack), microphone-in (minijack), speakers/line-out (minijack) and headphone (minijack - front)
Optional I/O Ports .....	..IEEE-1394 PCI Controller (3 port) PCMCIA Card Reader

CHASSIS

Multiple Orientation DesktopDesktop mode: 6.5"-6.6" H x 17.5" W x 18.0": Two internal 3.5" x 1" drive bays, two external 5.25" drive bays, one external 3.5" floppy bay, one AGP 8X Pro50 slot, 2 PCI 2.2 slots (5v, 32-bit) - 1 PCIx slot (62-bit/100 MHz). At 4.2" x 11" PCI and One at 4.2" x 9", 360 Watts Power Factor Correcting (PFC) power supply
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PERIPHERALS

MonitorsPerformance Flat Panel Monitors: Dell UltraSharp™ 2000FP 20" (20" viewable) Digital/Analog Flat Panel Display Dell UltraSharp 1900FP 19" (19" viewable) Digital/Analog Flat Panel Display Dell UltraSharp 1800FP 18" (18" viewable) Digital/Analog Flat Panel Display Dell UltraSharp 1703FP 17" (17" viewable) Digital/Analog Flat Panel Display, Height adjustable stand Dell UltraSharp 1702FP 17" (17" viewable) Digital/Analog Flat Panel Display Dell UltraSharp 1504FP 15" (15" viewable) Digital/Analog Flat Panel Display, Height adjustable stand Value Flat Panel Monitors: Dell E171FP 17" (17" viewable) Analog Flat Panel Display Performance Monitors: Dell P1130 21" (19.8" viewable) Flat Display UltraScan™ Monitor Mainstream Monitors: Dell M992 19" (18" viewable) Monitor Dell M782 17" (16" viewable) Monitor Value Monitors: Dell E772 17" (16" viewable) Monitor
Keyboard (105 Keys) .....	..Dell PS/2 Entry Quiet Key; Dell USB Hot Key Programmable Keyboard; Dell Smart Card Reader Keyboard
Mouse .....	..Dell PS/2 2 button mouse; Microsoft® IntelliMouse® PS/2 2 button scroll mouse; Logitech USB Optical 2 button scroll mouse
Speakers .....	..harman/kardon® HK 206 external speakers Altec Lansing 215, Speakers harman/kardon HK 395 external speakers Dell AS500 Sound Bar, for 1703FP flat panel display

STORAGE DEVICES

Optional Removable Storage1.44MB FDD; CD-ROM; CD-RW; CD-RW/DVD-ROM; CD-RW/DVD-ROM Combo drive; DVD+ RW ⁵ ; 250MB Zip Drive
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SOFTWARE

Modem56K ⁶ , PCI v.92 internal controller-less Data/Fax modem
Office Application SuitesMicrosoft Office XP SB; Microsoft Office XP Pro; Microsoft Office XP
Standard Management Tools .....	..Dell OpenManage™ IT Assistant, LegacySelect (control of I/O ports), OpenManage Client Instrumentation



Standard Manageability FeaturesDesktop Management Interface (DMI) 2.0S, CIM, WBEM, Wired for Management (WfM) 2.0, PXE, BIS, SNMP, SM BIOS 2.3.1, Advanced Control, Power Interface 1.0b (ACPI), DDC2b and Diagnostic LEDs: Four yellow and/or green LEDs on back of system
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Key Support FeaturesS3/4 sleep state support, Remote System Alerts, Remote BIOS flash, Remote BIOS configuration, Remote Wake-up capable, DMI information export to SMS, DIMM Pre-Failure Alert, Asset Tag, Property Ownership Tag, Chassis Intrusion Alert, DMI Configuration Change Alert, Enhanced S.M.A.R.T. II HDD Alerts
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ENVIRONMENTAL & REGULATORY

StandardTCO99, Blue Angel, Energy Star BSMI, C-TICK, CE, FCC, IRAM, NEMKO, NFPA 99, SABS, SASO, TCO, TUV, UL, VCCI
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SERVICE & SUPPORT

Base3 Year limited warranty ⁸ and Next Business Day on-site service (US Only)
Optional .....	..3 Year Same day 4-hour Response Service, 5 days x 10 hours ⁹ a day 3 Year Same day 4-hour Response Service; 7 days x 24 hours ⁹ a day

Dell's Terms and Conditions of Sales and Service apply and are available upon request. Dell cannot be held responsible for errors in typography or photography.

1. Desktop systems use a 32 bit PCI interface, which limits Gigabit performance to about 500 Megabits per second. Servers and high end workstation systems (such as the Dell Precision 450) with 64 bit PCI interfaces can achieve speeds exceeding 800 megabits per second.
 2. This term indicates compliance with IEEE standard 802.3ab for Gigabit Ethernet, and does not connote actual operating speed of 1 GB/sec. For high speed transmission, connection to a Gigabit Ethernet server and network infrastructure is required.
 3. Discs burned with this drive may not be compatible with some existing drives and players; using DVD+R media provides maximum compatibility.
 4. Service may be provided by third-party. Technician will be dispatched if necessary following phone-based troubleshooting. Subject to parts availability, geographical restrictions and terms of service contract. Service timing dependent upon time of day call placed to Dell. U.S. only.
 5. Upload speeds are limited to 53Kbps. Download speeds are less (about 30Kbps). Speeds can vary by line condition and modem manufacturer. Analog phone line and service required.
 6. For a complete copy of our guarantees and limited warranties, please write Dell U.S.A. L.P., Attention: Warranties, One Dell Way, Round Rock, TX 78682
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