



## HP xw4600 WORKSTATION

Affordable innovation with the power to do more



Combining next-generation performance technologies into a powerful, flexible and reliable single processor socket workstation, the HP xw4600 Workstation is designed and engineered to give you and your business a professional edge.

### Decidedly powerful

Gain a productivity advantage and accomplish more in less time. With outstanding price/performance, the HP xw4600 is an affordable workstation solution based on the new Intel® X38 Express performance chipset and the latest workstation-class Dual and Quad-Core Intel processors.<sup>2</sup> With dual PCIe x16 Gen2 graphics interfaces<sup>3</sup>, the HP xw4600 delivers up to twice the performance bandwidth of previous generation interfaces on your choice of professional 2D or 3D graphics cards while driving up to four 3D or six 2D displays without compromise. Realize savings in power consumption and energy costs with an 80 PLUS efficient power supply and ENERGY STAR® qualified options without sacrificing performance.

### Inherently flexible

Make a lasting impact with your financial investment with flexible, workstation-class options/expandability and support up to 8 GB of memory<sup>4</sup>. The computing horsepower of the HP xw4600 allows you to meet the increasingly demanding requirements of graphics and other data-intensive professional applications such

as mechanical design, digital content creation, or video editing and more. With more ports and expandability than before, it is easy to add memory, peripherals and storage as your future requirements change. Like all HP Workstations, the HP xw4600 offers a tool-less chassis design for simple serviceability as well as free remote management software and optional Remote Graphics Software to assist in making your work life easier.

### Exceedingly reliable

Focus on your priorities and work with true confidence with the comprehensive support of HP and its global partner network backing your system. HP engineers work onsite with ISVs to test and certify applications, OS and hardware configurations to help ensure that applications run better, faster and with greater reliability. Through innovative tools such as the HP Performance Tuning Framework (available free on Microsoft® Windows®-based systems), you can optimize and deliver the highest levels of system performance and application power throughout the life of your HP Workstation.

# HP XW4600 WORKSTATION

## HP recommends Windows Vista® Business

<b>Form factor</b>	Convertible minitower
<b>Operating systems</b>	Genuine Windows Vista® Business 32-bit Genuine Windows Vista® Business 64-bit Genuine Windows Vista® 32-bit downgrade to Genuine Microsoft® Windows® XP Professional 32-bit <sup>5</sup> Genuine Windows Vista® 64-bit downgrade to Genuine Microsoft® Windows® XP Professional 64-bit (available Q1, 2008) <sup>5</sup> Red Hat Enterprise Linux® WS 4 64-bit HP Installer Kit for Linux (includes drivers for both 32-bit & 64-bit OS versions of Red Hat Enterprise Linux WS4 and WS5) Red Flag Linux v5 (available in China only)
<b>Available processors</b>	Intel® Pentium® Dual-Core <sup>3</sup> E2180 (Dual-Core <sup>3</sup> 2.00 GHz <sup>6</sup> , 1 MB L2 cache, 800 MHz FSB <sup>7</sup> ) Intel Core™ 2 Duo E4500 <sup>1</sup> (Dual-Core <sup>3</sup> 2.20 GHz <sup>6</sup> , 2 MB shared L2 cache, 800 MHz FSB <sup>7</sup> ) Intel Core 2 Duo E6550 <sup>1</sup> (Dual-Core <sup>3</sup> 2.33 GHz <sup>6</sup> , 4 MB shared L2 cache, 1333 MHz FSB <sup>7</sup> ) Intel Core 2 Duo E6750 <sup>1</sup> (Dual-Core <sup>3</sup> 2.66 GHz <sup>6</sup> , 4 MB shared L2 cache, 1333 MHz FSB <sup>7</sup> ) Intel Core 2 Duo E6850 <sup>1</sup> (Dual-Core <sup>3</sup> 3.00 GHz <sup>6</sup> , 4 MB shared L2 cache, 1333 MHz FSB <sup>7</sup> ) Intel Core 2 Quad Q6600 <sup>1</sup> (Quad-Core <sup>3</sup> 2.40 GHz <sup>6</sup> , 2 x 4 MB shared L2 cache, 1066 MHz FSB <sup>7</sup> ) Intel Core 2 Quad Q6700 <sup>1</sup> (Quad-Core <sup>3</sup> 2.66 GHz <sup>6</sup> , 2 x 4 MB shared L2 cache, 1066 MHz FSB <sup>7</sup> ) Intel Core 2 Extreme Processor <sup>18,9</sup> QX6850 (Quad Core <sup>3</sup> 3.00 GHz <sup>6</sup> , 2 x 4 MB shared L2 cache, 1333 MHz FSB <sup>7</sup> )
<b>Chipset</b>	Intel X38 Express chipset
<b>Memory</b>	Up to 8 GB DDR2 800 MHz ECC, up to 4 GB DDR2 667 ECC; 4 DIMM slots
<b>Drive controllers</b>	Integrated serial ATA controller (ICH9R) 3 Gb/s (NCQ with 5 SATA connectors) with RAID 0, 1, 5 and 10 capability <sup>10</sup> ; removable boot drive option
<b>Hard drive(s)</b>	Up to 4 drives (2 will require optional expander kits), 2 TB max.; 80, 160 GB <sup>11</sup> (10K rpm) SATA 1.5 Gb/s; or 80, 160, 250, 500 GB <sup>11</sup> (7200 rpm) SATA 3 Gb/s NCQ; or 73, 146, 300 GB <sup>11</sup> (15K rpm) SAS 3 Gb/s
<b>Optical drives</b>	DVD-ROM (SATA); DVD/CD-RW combo (SATA); DVD+/-RW Double Layer SuperMulti (SATA) with LightScribe Direct Disc Labeling (Microsoft Windows only, requires LightScribe media for labeling) <sup>12</sup> ; 16-in-1 Media Card Reader (occupies lowest Optical Bay)
<b>Drive bays</b>	3 external 5.25-inch bays (opt. CRU dataport enclosure enables 3.5-inch SATA hard drive to be added to 5.25-inch bay, not available in all regions), 2 internal 3.5-inch bays, 1 external 3.5-inch bay
<b>Slots</b>	7 full length slots: 2 PCI Express (PCIe) x16 graphics, 1 PCIe x8 (x4 electrical) slot, 1 PCIe x1 slot, 3 PCI slots
<b>Graphics</b>	Professional 2D: NVIDIA Quadro NVS290 (256 MB, up to two cards) and NVIDIA Quadro NVS440 (256 MB, can be used in dual configuration with NVS290) (expected availability Q1, 2008) Entry 3D: NVIDIA Quadro FX370 (256 MB, up to two cards) and NVIDIA Quadro FX570 (256 MB, up to two cards) Mid-range 3D: ATI FireGL V5600 (512 MB) and NVIDIA Quadro FX1700 (512 MB, up to two cards) High-end 3D: NVIDIA Quadro FX3500 (256 MB), NVIDIA Quadro FX 4600 (512 MB)
<b>Audio</b>	Integrated high definition audio with jack retasking capability, opt. PCI Sound Blaster X-Fi XtremeGamer
<b>Network</b>	Integrated Broadcom 5755 NetXtreme Gigabit <sup>13</sup> PCIe, opt. Broadcom 5751 NetXtreme Gigabit <sup>13</sup> PCIe
<b>Ports</b>	Front: 2 USB 2.0, 1 headphone, 1 microphone, IEEE 1394 (optional), Rear: 7 USB 2.0, 1 standard serial port (opt. 2 <sup>nd</sup> ), 1 parallel, 2 PS/2, 1 external SATA 1.5 Gb/s, 1 RJ-45 to integrated Gigabit LAN, audio in, audio out, microphone Internal: 3 USB 2.0
<b>Input devices</b>	PS/2 standard keyboard, USB standard keyboard, USB Smart Card Keyboard, PS/2 2-button optical scroll mouse, USB 2-button optical scroll mouse; USB 3-button optical mouse; USB SpaceExplorer; USB SpacePilot
<b>Dimensions (H x W x D)</b>	17.7 in (44.9cm) x 6.7 in (17.0cm) x 18.0 in (45.7cm)
<b>Power</b>	475W; active Power Factor Correction
<b>Compliance and regulatory</b>	80 PLUS efficient; ENERGY STAR® qualified configurations
<b>Monitors (diagonally measured)</b>	19-inch HP LP1965 Flat Panel Monitor, 20.1-inch HP LP2065 Flat Panel Monitor, 24-inch HP LP2465 Flat Panel Monitor, 30-inch HP LP3065 Flat Panel Monitor
<b>Warranty</b>	Limited three-year next business day, parts, labor and 8x5 phone support; Terms and conditions may vary, certain restrictions apply. Service levels and response times for HP Care Packs may vary depending on your geographic location. Restrictions and limitations apply. For details, visit <a href="http://www.hp.com/go/carepack">www.hp.com/go/carepack</a> .

Certain Windows Vista product features require advanced or additional hardware. See <http://www.microsoft.com/windowsvista/getready/hardwarereqs.mspx> and <http://www.microsoft.com/windowsvista/getready/capable.mspx> for details. Windows Vista Upgrade Advisor can help you determine which features of Windows Vista will run on your computer. To download the tool, visit <http://www.windowsvista.com/upgradeadvisor>. All HP Personal Workstations are capable of running Genuine Windows Vista business.

<sup>1</sup> Intel's numbering is not a measurement of higher performance.

<sup>2</sup> Quad-Core and Dual-Core are new technologies designed to improve performance of multithreaded software products and hardware-aware multitasking operating systems and may require appropriate operating system software for full benefits; check with software provider to determine suitability; Not all customers or software applications will necessarily benefit from use of these technologies.

<sup>3</sup> I/O card must also be Gen2 in order to realize PCI Express® Base 2.0 Specification (also known as PCIe Gen2) graphics performance.

<sup>4</sup> Maximum memory capacities assume 64-bit operating systems. Microsoft® Windows® XP (32-bit) supports 4 GB (with Microsoft 32-bit, the amount of usable memory will be dependent upon your system configuration. It may be less than 4 GB); 32-bit linux can support up to 8 GB.

<sup>5</sup> Available for end user customers that are a business (including governmental or educational institutions) who are expected to annually order at least 25 Customer Systems with the same Custom Image.

<sup>6</sup> GHz refers to internal clock speed of the processor. Other factors besides clock speed may impact system and application performance.

<sup>7</sup> Actual bus clock rate is less. Listed bus speed represents the effective data transfer rate.

<sup>8</sup> 64-bit computing on Intel architecture requires a computer system with a processor, chipset, BIOS, operating system, device drivers and applications enabled for Intel® 64 architecture. Processors will not operate (including 32-bit operation) without an Intel 64 architecture-enabled BIOS. Performance will vary depending on your hardware and software configurations. See [www.intel.com/info/em64t](http://www.intel.com/info/em64t) for more information.

<sup>9</sup> This workstation does not support the Intel Core 2 Extreme processor over-clocking feature.

<sup>10</sup> Hardware RAID is not supported on Linux systems. The Linux kernel, with built-in software RAID, provides excellent functionality and performance. It is a good alternative to hardware-based RAID. Please visit <http://h20000.www2.hp.com/bc/docs/support/SupportManual/c00060684/c00060684.pdf> for RAID capabilities with Linux.

<sup>11</sup> 1 GB = 1 billion bytes. Actual formatted capacity is less. Up to 8 GB of hard drive (or system disk) is reserved for the system recovery software (XP and XP Pro). Up to 12 GB of system disk is reserved for system recovery software. (Vista)

<sup>12</sup> Actual speeds may vary. Does not permit copying of commercially available DVD movies or other copy-right protected materials. Intended for creation and storage of your original material and other lawful uses. Double Layer discs can store more data than single layer discs. However, double-layer discs burned with this drive may not be compatible with many existing single-layer DVD drives and players. LightScribe creates a monochrome image. LightScribe media required and sold separately.

<sup>13</sup> The term "10/100/1000" or "Gigabit" Ethernet 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.

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4AA1-2671 ENUC, August 2007