

# HP PERSONAL WORKSTATIONS



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	Overview	Operating systems	Processor, chipset, system bus	Memory	Expansion slots	Graphics	Controllers & HDs	Optical drives	Communications
 <p><b>HP xw4400 Workstation</b></p>	Extreme performance, affordably priced	<ul style="list-style-type: none"> <li>Windows Vista™ capable<sup>i</sup></li> <li>Genuine Windows® XP Professional 32-bit</li> <li>Genuine Windows® XP Professional x64</li> <li>Enterprise Linux™ WS 4 (64-bit)</li> <li>HP Installer Kit for Linux (includes drivers for both 32-bit &amp; 64-bit OS versions of Red Hat Enterprise Linux 3 and 4)</li> </ul>	Intel® Core™ 2 Extreme processor: <ul style="list-style-type: none"> <li>Quad-core<sup>i</sup></li> <li>8 MB shared L2 cache</li> <li>1066 MHz FSB<sup>vi</sup></li> </ul> Intel® Core™ 2 Duo processor or Intel Core 2 Extreme processor: <ul style="list-style-type: none"> <li>Dual-core<sup>i</sup></li> <li>Up to 4 MB shared L2 cache</li> <li>1066 MHz FSB<sup>vi</sup></li> </ul> Intel Pentium® D processor: <ul style="list-style-type: none"> <li>Dual-core<sup>i</sup></li> <li>2 x 2 MB L2 cache</li> <li>800 MHz FSB<sup>vi</sup></li> </ul> Intel 975X Express chipset	4 DIMM slots, dual channel configuration: <ul style="list-style-type: none"> <li>8 GB max. of DDR2 667 MHz ECC unbuffered, requires 2 GB DIMMs</li> <li>2 GB max. of DDR2 667 non-ECC</li> </ul>	<ul style="list-style-type: none"> <li>1 PCI Express x16 graphics slot</li> <li>1 PCIe x16 (x4 bandwidth)</li> <li>1 PCIe x1</li> <li>3 PCI (33 MHz)</li> </ul>	<ul style="list-style-type: none"> <li>NVIDIA Quadro NVS 285<sup>vii</sup></li> <li>NVIDIA Quadro NVS 440<sup>viii</sup></li> <li>NVIDIA Quadro FX 560</li> <li>ATI FireGL V3300</li> <li>ATI FireGL V7200</li> <li>NVIDIA Quadro FX 1500<sup>ix</sup></li> <li>NVIDIA Quadro FX 3500</li> <li>NVIDIA Quadro FX 4500 with optional G-Sync card</li> </ul>	<ul style="list-style-type: none"> <li>Integrated 4 channel SATA 3 Gb/s with RAID, up to 2 drives (4 with optional bay conversions, 2 TB max.)</li> <li>Optional SAS, up to 2 drives (4 with optional bay conversions, 1.2 TB max., with 300 GB SAS drives—expected availability in Q4 2006)</li> <li>LSI 8344ELP 8-port SAS HW RAID Card</li> </ul>	Up to 2; <ul style="list-style-type: none"> <li>CD-ROM</li> <li>DVD/CD-RW</li> <li>DVD-ROM</li> <li>Dual-layer DVD+RW with LightScribe<sup>iii</sup></li> </ul>	<ul style="list-style-type: none"> <li>Broadcom Gigabit™ PCIe LAN on Motherboard (LOM)</li> </ul>
 <p><b>HP xw6400 Workstation</b></p>	Smallest multi-core workstation for constrained environments	<ul style="list-style-type: none"> <li>Windows Vista™ capable<sup>i</sup></li> <li>Genuine Windows® XP Professional 32-bit</li> <li>Genuine Windows® XP Professional x64</li> <li>Enterprise Linux™ WS 4 (64-bit)</li> <li>HP Installer Kit for Linux (includes drivers for both 32-bit &amp; 64-bit OS versions of Red Hat Enterprise Linux 3 and 4)</li> </ul>	1 or 2 Quad-Core Intel Xeon® Processor 5300 Sequence 1 or 2 Dual-Core Intel Xeon® Processor 5100 Sequence Dual- or Quad-Core 4 MB L2 cache (5100 Sequence) 2 x 4 MB L2 cache (5300 Sequence) 1066 or 1333 MHz FSB <sup>vi</sup> Intel 5000X chipset	4 DIMM slots, 4 channel configuration: <ul style="list-style-type: none"> <li>16 GB max. of Registered DDR2 667 MHz Fully Buffered DIMMs, requires 4 GB DIMMs</li> </ul>	<ul style="list-style-type: none"> <li>1 PCIe x16 graphics slot</li> <li>1 PCIe x16 (x4 bandwidth)</li> <li>2 PCIe x8 (x4 bandwidth)</li> <li>2 PCI (33 MHz)</li> </ul>	<ul style="list-style-type: none"> <li>NVIDIA Quadro NVS 285<sup>vii</sup></li> <li>NVIDIA Quadro NVS 440<sup>viii</sup></li> <li>NVIDIA Quadro FX 560</li> <li>ATI FireGL V3300</li> <li>ATI FireGL V7200</li> <li>NVIDIA Quadro FX 1500</li> <li>NVIDIA Quadro FX 3500</li> <li>NVIDIA Quadro FX 4500 with optional G-Sync card</li> </ul>	<ul style="list-style-type: none"> <li>Integrated 4 channel SATA 3 Gb/s with RAID, up to 3 SATA drives (with optional bay conversion, 1.5 TB max.)</li> <li>Optional SAS, up to 3 drives (with optional bay conversion, 900 GB max., with 300 GB SAS drives)</li> </ul>	Up to 2; <ul style="list-style-type: none"> <li>CD-ROM</li> <li>DVD/CD-RW</li> <li>DVD-ROM</li> <li>DVD+/-RW DL with LightScribe<sup>iii</sup></li> </ul>	<ul style="list-style-type: none"> <li>Integrated Broadcom Gigabit™ PCIe LAN</li> <li>Optional Broadcom Gigabit™ PCIe NIC</li> </ul>
 <p><b>HP xw8400 Workstation</b></p>	Top of the line multi-core performance and expandability	<ul style="list-style-type: none"> <li>Windows Vista™ capable<sup>i</sup></li> <li>Genuine Windows® XP Professional 32-bit</li> <li>Genuine Windows® XP Professional x64</li> <li>Enterprise Linux™ WS 4 (64-bit)</li> <li>HP Installer Kit for Linux (includes drivers for both 32-bit &amp; 64-bit OS versions of Red Hat Enterprise Linux 3 and 4)</li> </ul>	1 or 2 Quad-Core Intel Xeon® Processor 5300 Sequence 1 or 2 Dual-Core Intel Xeon® Processor 5100 Sequence Dual- or Quad-Core 4 MB L2 cache (5100 Sequence) 2 x 4 MB L2 cache (5300 Sequence) 1066 or 1333 MHz FSB <sup>vi</sup> Intel 5000X chipset	8 DIMM slots, 4 channel configuration: <ul style="list-style-type: none"> <li>64 GB max. of Registered DDR2 667 MHz Fully Buffered DIMMs, requires 8 GB DIMMs (expected availability in Q2 2007)</li> </ul>	<ul style="list-style-type: none"> <li>1 PCIe x16 graphics slot</li> <li>1 PCIe x16 (x4 bandwidth)</li> <li>1 PCIe x8 (x4 bandwidth)</li> <li>1 PCI-X (133 MHz)</li> <li>2 PCI-X (100 MHz)</li> <li>1 PCI (33 MHz)</li> </ul>	<ul style="list-style-type: none"> <li>NVIDIA Quadro NVS 285</li> <li>NVIDIA Quadro FX 560</li> <li>ATI FireGL V3300</li> <li>ATI FireGL V7200</li> <li>NVIDIA Quadro FX 1500</li> <li>NVIDIA Quadro FX 3500</li> <li>NVIDIA Quadro FX 4500 with optional G-Sync card</li> <li>NVIDIA Quadro FX 5500<sup>ix</sup> with optional G-Synd card</li> </ul>	<ul style="list-style-type: none"> <li>Integrated 6 channel SATA 3 Gb/s with RAID, up to 5 SATA drives (3.75 TB max.)</li> <li>Integrated 4 channel SAS with RAID, up to 5 SAS drives (1.5 TB max.)</li> </ul>	Up to 3; <ul style="list-style-type: none"> <li>CD-ROM</li> <li>DVD/CD-RW</li> <li>DVD-ROM</li> <li>Dual-layer DVD+RW with LightScribe<sup>iii</sup></li> </ul>	<ul style="list-style-type: none"> <li>Integrated Broadcom Gigabit™ PCIe LAN</li> <li>Optional Broadcom Gigabit™ PCIe NIC</li> </ul>
 <p><b>HP xw9400 Workstation</b></p>	Ultimate combination of compute and graphics capabilities	<ul style="list-style-type: none"> <li>Windows Vista™ capable<sup>i</sup></li> <li>Genuine Windows® XP Professional 32-bit</li> <li>Genuine Windows® XP Professional x64</li> <li>Enterprise Linux™ WS 4 (64-bit)</li> <li>HP Installer Kit for Linux (includes drivers for both 32-bit &amp; 64-bit OS versions of Red Hat Enterprise Linux 3 and 4)</li> </ul>	1 or 2 Dual-Core <sup>i</sup> 64-bit AMD Opteron 2000 Series Processors: <ul style="list-style-type: none"> <li>AMD64 technology<sup>v</sup></li> <li>1 MB L2 cache</li> <li>2x 1 MB L2 cache (Dual-Core)</li> <li>On-chip memory controller</li> <li>1 GHz HyperTransport™<sup>vi</sup></li> </ul> NVIDIA nForce Professional chipset	8 DIMM slots, dual channel configuration: <ul style="list-style-type: none"> <li>32 GB max. of ECC registered DDR2 667 MHz SDRAM in 8 DIMM slots (a max. of 8 GB with one processor, expected availability in January, 2007); will support 32 GB of memory with 4 GB DIMMs</li> </ul>	<ul style="list-style-type: none"> <li>2 PCIe x16 graphics slots</li> <li>2 PCIe x16 (x4 bandwidth)</li> <li>2 PCI-X (100 MHz)</li> <li>1 PCI (33 MHz)</li> </ul>	<ul style="list-style-type: none"> <li>NVIDIA Quadro NVS 285<sup>vii</sup></li> <li>NVIDIA Quadro FX 560<sup>viii</sup></li> <li>NVIDIA Quadro FX 1500<sup>ix</sup></li> <li>NVIDIA Quadro FX 3500<sup>ix</sup></li> <li>NVIDIA Quadro FX 4500<sup>ix</sup> with optional G-Sync card</li> <li>NVIDIA Quadro FX 5500<sup>ix</sup> with optional G-Sync card</li> <li>SLI for NVIDIA Quadro supported on FX 3500, FX 4500, FX 5500</li> </ul>	<ul style="list-style-type: none"> <li>Integrated 6 channel SATA 3 Gb/s with RAID, up to 5 SATA drives (3.75 TB max.)</li> <li>Integrated 8 channel SAS with RAID, up to 5 SAS drives (1.5 TB max.)</li> </ul>	Up to 3; <ul style="list-style-type: none"> <li>CD-ROM</li> <li>DVD/CD-RW</li> <li>DVD-ROM</li> <li>Dual-layer DVD+RW with LightScribe<sup>iii</sup></li> </ul>	<ul style="list-style-type: none"> <li>Dual NVIDIA Gigabit LAN-On-Motherboard</li> </ul>
 <p><b>HP Compaq nw8440 Mobile Workstation</b></p>	Workstation performance, notebook mobility	<ul style="list-style-type: none"> <li>Windows Vista™ capable<sup>i</sup></li> <li>Genuine Windows XP Professional Edition</li> </ul>	Intel Core 2 Duo processor: <ul style="list-style-type: none"> <li>667 MHz FSB<sup>vi</sup></li> <li>Up to 4 MB L2 cache</li> </ul> Intel Core Duo processor: <ul style="list-style-type: none"> <li>667 MHz FSB<sup>vi</sup></li> <li>2 MB L2 cache</li> </ul>	2 DIMM slots, dual channel configuration: <ul style="list-style-type: none"> <li>4 GB max. of DDR2 533 or 667 MHz, requires 2 GB DIMMs</li> </ul>	<ul style="list-style-type: none"> <li>1 Type I/II PC Card Slot (32-bit Cardbus &amp; 16-bit cards)</li> <li>Integrated SD media slot</li> <li>1 integrated Smart Card Reader</li> </ul>	<ul style="list-style-type: none"> <li>ATI Mobility FireGL V5200 with choice of 15.4 inch LCD display options with resolutions up to 1920 x 1200</li> </ul>	<ul style="list-style-type: none"> <li>Integrated SATA, up to 1 drive; (5400 or 7200 rpm, 100 GB max.)</li> <li>Additional optional drive via MultiBay II</li> </ul>	Up to 1 integrated; <ul style="list-style-type: none"> <li>DVD/CD-RW</li> <li>DVD-ROM</li> <li>Dual-layer DVD+RW with LightScribe<sup>iii</sup></li> <li>Additional drives through external MultiBay II</li> </ul>	<ul style="list-style-type: none"> <li>Integrated Broadcom Gigabit™ LOM</li> <li>Integrated modem</li> <li>Intel Pro/Wireless 3945ABG</li> <li>Intel Pro/Wireless 3945BG</li> <li>Broadcom 802.11b/g</li> <li>Broadcom 802.11a/b/g</li> </ul>
 <p><b>HP Compaq nw9440 Mobile Workstation</b></p>	Our most powerful mobile workstation	<ul style="list-style-type: none"> <li>Windows Vista™ capable<sup>i</sup></li> <li>Genuine Windows XP Professional Edition</li> </ul>	Intel Core 2 Duo processor: <ul style="list-style-type: none"> <li>667 MHz FSB<sup>vi</sup></li> <li>Up to 4 MB L2 cache</li> </ul> Intel Core Duo processor: <ul style="list-style-type: none"> <li>667 MHz FSB<sup>vi</sup></li> <li>2 MB L2 cache</li> </ul>	2 DIMM slots, dual channel configuration: <ul style="list-style-type: none"> <li>4 GB max. of DDR2 533 or 667 MHz, requires 2 GB DIMMs</li> </ul>	<ul style="list-style-type: none"> <li>1 Type I/II PC Card Slot (32-bit Cardbus &amp; 16-bit cards)</li> <li>7-in-1 media reader</li> <li>1 integrated Smart Card Reader</li> </ul>	<ul style="list-style-type: none"> <li>NVIDIA Quadro FX 1500M with choice of 17 inch LCD display options with resolutions up to 1920 x 1200</li> </ul>	<ul style="list-style-type: none"> <li>Integrated SATA, up to 1 drive; (5400 or 7200 rpm, 100 GB max.)</li> <li>Additional optional drive via MultiBay II</li> </ul>	Up to 1 integrated; <ul style="list-style-type: none"> <li>DVD/CD-RW</li> <li>DVD-ROM</li> <li>Dual-layer DVD+RW with LightScribe<sup>iii</sup></li> <li>Additional drives through external MultiBay II</li> </ul>	<ul style="list-style-type: none"> <li>Integrated Broadcom Gigabit™ LOM</li> <li>Integrated modem</li> <li>Intel Pro/Wireless 3945ABG</li> <li>Intel Pro/Wireless 3945BG</li> <li>Broadcom 802.11b/g</li> <li>Broadcom 802.11a/b/g</li> </ul>

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>.

<sup>i</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 benefit; check with software provider to determine suitability; Not all customers or software applications will necessarily benefit from use of these technologies.  
<sup>ii</sup> This system may require upgraded and/or separately purchased hardware, drivers and/or software to take full advantage of Windows Vista functionality. Check [www.windowsvista.com/getready](http://www.windowsvista.com/getready) for details.  
<sup>iii</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 grayscale image similar to black and white photography. LightScribe media required and sold separately.  
<sup>iv</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.  
<sup>v</sup> This system requires a separately purchased 64-bit operating system and 64-bit software products to take advantage of the 64-bit processing capabilities of the AMD Opteron processor. Given the wide range of software applications available, performance of a system including a 64-bit operating system will vary.  
<sup>vi</sup> Actual bus clock rate is less. Listed bus speed represents the effective data transfer rate.  
<sup>vii</sup> Dual graphics supported.  
<sup>viii</sup> NVS 440 + NVS 285 supported, not dual NVS 440.

On page 1, left hand screen image designed and visualized with ICEM Surf; courtesy of Landrover and ICEM. Center screen image courtesy of CraneDigital, LLC. Right hand screen image courtesy of PTC.

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