

# HP Personal Workstations HP/Intel Quad-Core Launch Frequently Asked Questions



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**Q: What is HP announcing today?**

A: HP today introduced powerful, energy-efficient multi-core workstations featuring the industry's first volume quad-core<sup>1</sup> processors from Intel®.

**Q: What is significant about this announcement?**

A: The introduction of Intel Quad-Core<sup>1</sup> technology combined with HP workstations is yet another proof point to HP's time to market leadership. HP and Intel are leading the industry to multi-core technology.

## Quad-Core<sup>1</sup> and Multi-Core technology

**Q: What are the benefits of Quad-Core<sup>1</sup> technology?**

A: HP workstations with Quad-Core<sup>1</sup> processors are designed to help achieve:

- Greater parallelism
- Increased compute capacity in the same footprint
- Shorter project cycle times
- Increased capabilities to perform mission-critical operations in a supportive, reliable, multi-threaded, multi-tasking environment

**Q: Who are your target customers for this new offering?**

A: HP workstations with Quad-Core<sup>1</sup> Intel® Xeon® Processor 5300 Series and Core™2 Extreme QX6700 processors are ideal for professionals including digital content creators, oil and gas engineers, and computer-aided manufacturing engineers.

**Q: Why is multi-core technology becoming so important?**

A: Multi-core processors (multiple processor cores contained in a single package) are becoming increasingly important due to the limitations that artists, engineers, and analysts are currently encountering with regard to both the number of tasks needing to be executed as well as the need to perform more complex analysis.

Adding additional processing elements, within the same processor socket, enables the size and complexity of the designs to be increased allowing more accurate and photo-realistic results. It also allows more complex analysis to be performed. Adding additional processing elements also allows the user to perform a greater number of tasks at the same time. Coupling these two benefits (greater complexity and greater number of tasks) together will cause a dramatic improvement how people get their work done.

**Q: How do you think multi-core platforms will affect the workstation industry?**

A: The increase in the number of processing cores within the workstation represents a significant advancement in computing technology. This advancement can be viewed as a disruptive technology that will drive efficiency improvements in the way artists and engineers work.

Dual-Core<sup>1</sup> and now Quad-Core<sup>1</sup> processor technology will enable more tasks and analysis to be performed simultaneously; not only speeding the time to design completion but allowing the artist/engineer to perform more complex and photo-realistic designs.

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<sup>1</sup> Dual-Core/Quad-Core is a new technology designed to improve performance of multithreaded software products and hardware-aware multitasking operating systems and may require appropriate operating system software for full benefit. Not all customers or software applications will necessarily benefit from use of this technology.

**Q: Can you provide some examples of how multi-core technology will change the way customers work?**

A: As previously mentioned, adding more processing elements will allow more complex designs to be created. One significant benefit of adding more processor cores, with regard to design and analysis, will be the ability of designers and engineers to break the design and/or analysis into much smaller elements. For example, in a crash analysis or simulation, allowing the model to be represented as particles with each particle having its own complex attributes requires an immense amount of computational horsepower. Placing more compute capability within the same footprint will allow more accurate analysis to be performed (by increasing the number of particles and complexity of the particle attributes).

In the area of character animation, as done in the digital motion picture studios, artists are currently restricted in how (photo) realistic their characters can be. Recreating human movements and features such as hair movement require extreme amounts of compute capability to solve the numerous mathematical equations. Artists are currently limited by how realistic they can make their characters due to the processing requirements. Adding more processing capability to the same footprint will allow more complex mathematical equations to be solved and improve the resulting character animations.

Having more processing elements will also allow users to perform a much greater number of tasks on their workstation at the same time. This might involve running multiple simulation scenarios or running several demanding applications at the same time.

## Availability, ordering, and configurations

**Q: When will HP workstations begin shipping with Intel Quad-Core<sup>1</sup> processors?**

A: HP workstations featuring the new Quad-Core<sup>1</sup> Intel Xeon Processor 5300 Series and Core 2 Extreme QX6700 processor will be available starting Nov. 14.

**Q: Where can they be purchased?**

A: HP workstations featuring the new Quad-Core<sup>1</sup> Intel Xeon Processor 5300 Series and Core 2 Extreme QX6700 processors will be available directly through HP Sales, on line, or through HP's broad network of channel partners worldwide.

**Q: How much will they cost?**

A: HP workstations featuring new Quad-Core<sup>1</sup> Intel Xeon Processor 5300 Series and Core 2 Extreme QX6700 processor series have a starting price of \$2,349.

**Q: What new technology is being introduced in the HP xw4400/xw6400/xw8400 Workstations?**

A: The HP xw4400 is adding the Intel Core 2 Extreme QX6700 processor. The HP xw6400 and HP xw8400 are adding the Quad-Core<sup>1</sup> Intel Xeon Processor 5300 Series processors. The HP xw4400/xw6400/xw8400 Workstations with Quad-Core<sup>1</sup> processors will be available on November 14, 2006.

**Q: Is Hyperthreading Technology delivered on the new Dual-Core Intel Xeon 5000 and 5100 Sequence Processor-based workstations?**

A: Hyperthreading Technology offered previously on single-core processors is not available on the new Quad-Core<sup>1</sup> processors. The need for Hyperthreading has been nullified with true multi-core processors.

**Q: Quad-Core<sup>1</sup>, Dual-Core<sup>1</sup>. Dual-Socket. Multi-Core. What do these terms mean?**

- Dual-socket: Two physical CPU sockets
- Quad Core<sup>1</sup>: Each CPU has exactly four processor cores.
- Dual Core<sup>1</sup>: Each CPU has exactly two processor cores.
- Multi-core: Each CPU has two or more cores.
- Dual-processor: Previous terminology for a system with two processors in two sockets.

**Q: Will I have to change my golden image to move to the new Quad-Core<sup>1</sup> processors?**

A: No. Upgrading to Quad-Core<sup>1</sup> processors will not require an image change.

**Q: Is there any change to the operating system required to take advantage of the new Quad-Core<sup>1</sup> Intel Xeon Processor 5300 Series and Core 2 Extreme QX6700 processors?**

A: No, there the list of supported operating systems remains the same for Quad-Core<sup>1</sup> as it was for Dual-Core<sup>1</sup> processors. Below is the list of supported operating systems for the HP xw4400/xw6400/xw8400 Workstations:

- Preinstalled 32-bit: Genuine Windows<sup>®</sup> XP Professional SP2 (WHQL certified)
- Preinstalled 64-bit: Genuine Windows XP Professional x64 Edition (WHQL certified)
- Windows Vista™ capable
- Preinstalled Red Hat Enterprise Linux WS 4 (64-bit only) OR
- HP Installer Kit for Linux (includes drivers for both 32-bit and 64-bit OS versions of Red Hat Enterprise Linux 3 and 4)
- Certified on Red Hat Enterprise Linux WS 3 and WS 4 (32-bit and 64-bit)

**Q: Do I have to recompile my applications to see the advantages of the new Quad-Core<sup>1</sup> Intel Xeon Processor 5300 Series and Core 2 Extreme QX6700 processors?**

A: No, HP testing and Intel data indicate that technical applications will run without recompiling.

**Q: How do I add the second processor to the HP xw6400 and HP xw8400 Workstations? Is a system board swap required?**

A: CPU upgrades are field and customer installable without system board swaps using the HP xw6400 or HP xw8400 Workstation CPU upgrade kits. The second processor must be the same speed and stepping as the first.