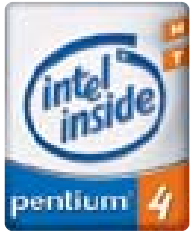# The technology that goes beyond.

Introducing the latest Intel® Pentium® 4 Processor with HT Technology.[1]

The new Intel® Pentium® 4 processor 6xx sequence.[2]

The Intel® Pentium® 4 Processor with HT Technology has transformed computing by enabling end users to do more things faster and more creatively. But, as a PC technology leader, Intel also understands that processor frequency (speed) is only part of the user experience. So we continue to develop new processor features and capabilities that deliver additional user value today, while creating flexibility for coming software advancements. And the latest Intel processor technologies have come together in the new Intel® Pentium® 4 processor 6xx sequence.

Crisp, smooth audio and video.
Great application performance.

A PC based on a processor from the Intel® Pentium® 4 processor 6xx sequence, paired with an Intel® Express Chipset delivers a robust platform that enhances every consumer's entire experience. The latest Intel Pentium 4 Processor with HT Technology provides distinct benefits through four exciting technologies:

2MB of L2 Cache: Get smart about performance.

Memory cache is temporary storage for frequently accessed and recently used data. A larger cache size means it can store more information for faster access, making the CPU more efficient. This means that the processor can process data more efficiently for running applications, improving overall performance and responsiveness, and creating a richer experience for digital content, entertainment and gaming.

Intel® Extended Memory 64 Technology[3] (EM64T):
Brace yourself for 64-bit.

As 64-bit computing begins moving toward mainstream with powerful digital content creation software and other applications, processor capability must be there to embrace it. The Intel® Pentium® 4 processor 6xx sequence is Intel's first desktop product line to support Intel® Extended Memory 64 Technology. Compared to a 32-bit processor, a 64-bit processor can manipulate data and instructions that are twice as big, allowing access to a larger amount of memory and increasing the throughput per operation. When combined with a 64-bit OS, Intel® EM64T has the flexibility to run 64-bit applications, while maintaining its 32-bit compatibility.

Enhanced Intel® SpeedStep® Technology[4] (EIST):
Run quiet, run cool.

With Enhanced Intel® SpeedStep® Technology, the speed of the processor is dependent on the intensity of the workload, resulting in power efficiency that can help to generate less heat, as well as decrease the amount of cooling technology needed on a constant basis. This lets manufacturers focus less on cooling components, like fans, and more on developing innovative form factors. For users, depending on system implementation and usage, this could mean quieter systems that look as cool as they run.

Execute Disable Bit[5] (XD Bit): Fight outside intrusions.

Both at home and at the office, system security remains a major user concern. The Intel® Pentium® 4 processor 6xx sequence has enabled support for XD Bit, which, when combined with a supporting operating system and anti-virus software, can improve protection against malicious "buffer overflow" attacks. XD Bit provides additional security at the hardware level, by allowing the processor to classify areas in memory by where application code can execute and where it cannot. When a malicious worm attempts to insert code in the buffer, the processor disables code execution, preventing damage or worm propagation.

Build a better user experience.

Want to provide a powerful, responsive PC that encourages user creativity, enhances the most demanding games, and delivers brilliant sound and graphics? An Intel® Pentium® 4 processor 6xx sequence, supported by an Intel® Express Chipset, is a smart solution. Not only will users benefit from exceptional performance and the multi-tasking benefits of HT Technology, but they'll also be poised for the future with a more robust, more secure and potentially quieter computing environment. To learn more, visit:

http://www.intel.com/personal/desktop/6xx.htm

Intel Pentium® 4 Processor 6xx Sequence.
The processor with more.

New Technology	End User Advantage
2MB of L2 Cache	A larger cache size can help the processor run many popular applications, like word processing and 3D gaming, more efficiently.
Intel® Extended Memory 64 Technology[3]	Provides the flexibility to run 64-bit applications when combined with a 64-bit OS, while maintaining its 32-bit compatibility.
Enhanced Intel® SpeedStep® Technology[4]	Enables cooler and quieter PC designs (depending on system implementation and usage).
Execute Disable Bit[5]	Can improve protection against malicious "buffer overflow" attacks when properly enabled with a supporting operating system.

1 Look for systems with the Intel® Pentium® 4 Processor with HT Technology logo and also including an Intel® 925X or 915 Express Chipset (see the product spec sheet or ask your salesperson). Performance and functionality will vary depending on (i) the specific hardware and software you use and (ii) the feature enabling/system configuration by your system vendor. See http://www.intel.com/info/hyperthreading for information on HT Technology or consult your system vendor for more information.

2 Intel processor numbers are not a measure of performance. Processor numbers differentiate features within each processor family, not across different processor families. See www.intel.com/products/rpocessor_number for details.

3 Intel® EM64T requires a computer system with a processor, chipset, BIOS, operating system, device drivers and applications enabled for Intel EM64T. Processor will not operate (including 32-bit operation) without an Intel EM64T-enabled BIOS. Performance will vary depending on your hardware and software configurations. See www.intel.com/info/em64t for more information including details on which processors support Intel® EM64T or consult with your system vendor for more information.

4 Power savings from Enhanced Intel SpeedStep® technology may vary depending on system usage and design.

5 Enabling Execute Disable Bit functionality requires a PC with a processor with Execute Disable Bit capability and a supporting operating system. Check with your PC manufacturer on whether your system delivers Execute Disable Bit functionality.

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