Product Brief

Intel® Pentium® D Processor 900 Sequence

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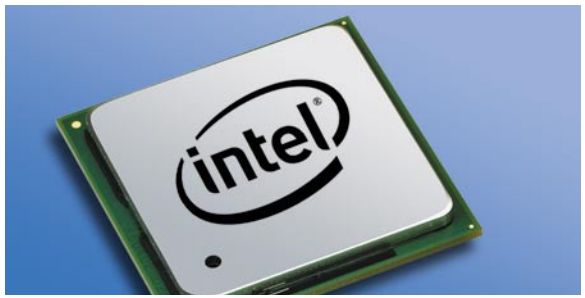
Delivering Dual-Core Desktop Performance



Product Description

In today's usage environment, processor speed alone is not enough to ensure the best experience. Users have high expectations for their PC, and want the most productivity and enjoyment from their PCs when running multiple applications simultaneously. The Intel® dual-core processor delivers on these expectations with higher throughput and computing resources that expand PC capabilities.

The Intel® Pentium® D processor 900 sequence features a dual-core design with two complete processor cores that each run at the same speed, in one physical package. Featuring Intel® Virtualization Technology[1], enabled platforms can run multiple operating systems and/or applications in independent partitions or environments for improved security and remote manageability.

Combine the Intel Pentium D processor with an Intel® Desktop Board to deliver an outstanding computing experience for the desktop and workstation.

How is Dual-Core Processing Different from Hyper-Threading Technology?

The Intel dual-core processor is an evolution of Hyper-Threading (HT) Technology. Both enable a multi-threaded experience for applications written to take advantage of multiple threads, but dual-core processing brings more resources and computing throughput to the PC. Dual-core processing allows for true parallel computing capabilities on the desktop PC platform.

Features and Benefits of the Intel® Pentium® D Processor 900 Sequence

Features	Benefits
Dual-Core Processing	Intel dual-core processors have two complete processor cores in one physical package running at the same frequency. The cores share the same interface with chipset and memory, but each core has its own set of registers and cache for truly parallel computing.
Intel® Virtualization Technology (Intel® VT)[1]	With Intel VT, one hardware platform functions as multiple "virtual" platforms. For businesses, Intel VT offers improved manageability, limiting downtime and maintaining worker productivity by isolating computing activities into separate partitions. In the home, Intel VT allows creating unique user environments for multiple family members using the same platform simultaneously.
2 x 2MB Level 2 Cache	Each processor core has its own 2MB L2 cache (4MB total) enabling improved overall system performance by allowing each core to have faster access to larger amounts of the most often used data.
800 MHz Front Side Bus	Delivers excellent system bandwidth for efficient and improved system performance.
Execute Disable Bit[3]	When enabled with a supported operating system, the Execute Disable Bit allows memory to be marked as executable or non-executable. If code attempts to run in non-executable memory, such as when malware exploits buffer overrun vulnerabilities, the processor raises an error to the operating system.
Intel® Extended Memory 64 Technology (Intel® EM64T)[1]	Intel EM64T provides an enhancement to Intel's 32-bit architecture by allowing the desktop processor platform to access larger amounts of memory. With appropriate 64-bit supporting hardware and software, platforms based on an Intel processor supporting Intel EM64T can enable use of extended virtual and physical memory.
Streaming SIMD Extensions	Single Instruction Multiple Data (SIMD) technology accelerates performance on a wide variety of applications including multimedia, video and audio encoding/decoding, 3-D graphics and image processing.
Enhanced Intel SpeedStep® Technology (EIST)[4]	EIST allows the system to dynamically adjust processor voltage and core frequency, which can decrease average power consumption and average heat production. Combined with existing power saving features, EIST may provide an excellent balance between providing power when you need it and conserving it when you don't.
Intel Designed Thermal Solution for Boxed Processors[5]	Includes a 4-pin connector for fan speed control to help minimize the acoustic noise levels generated from running the fan at higher speeds for thermal performance. The fan speed control technology is based on actual CPU temperature and power usage.

[1] Intel® Virtualization Technology (Intel® VT) and Intel® Extended Memory 64 Technology (Intel® EM64T) require a computer system with a processor, chipset, BIOS, enabling software and/or operating system, device drivers and applications designed for these features. Performance will vary depending on your configuration. Contact your vendor for more information. Not all Pentium D processors support Intel VT. See the Processor Spec Finder at processorfinder.intel.com or contact your Intel representative 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/processor_number/ for details.

[3] 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.

[4] Enhanced Intel SpeedStep® Technology (EIST) for specified units of this processor available Q2/06. See the Processor Spec Finder at processorfinder.intel.com or contact your Intel representative for more information.

[5] The acoustic benefits of the 4-pin header are reliant on a properly designed motherboard. Consult your board manufacturer for compatibility.

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