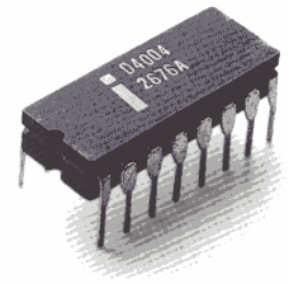
INTEL HIGH-PERFORMANCE CONSUMER DESKTOP MICROPROCESSOR TIMELINE

1971: 4004 Microprocessor
The 4004 was Intel's first microprocessor. This breakthrough invention powered the Busicom* calculator and paved the way for embedding intelligence in inanimate objects as well as the personal computer.
Number of Transistors: 2,300
Speed: 108KHz

Busicom Calculator*

Ted Hoff



4004 Microprocessor

- Intel began development of the first microprocessor in 1969 as part of a project for Japanese calculator manufacturer Busicom (far left) to develop a set of chips for a family of programmable calculators.
- The original plan from Busicom called for 12 custom chips. Ted Hoff, an Intel engineer (center), developed the concept for a general-purpose logic device would be a better, more efficient solution – his idea led to the development of the microprocessor.
- Originally, Busicom owned the rights to the microprocessor having paid Intel $60,000. Realizing the potential for the "brain" chip, Intel offered to return the $60,000 in exchange for the rights to the microprocessor design. Busicom agreed and Intel introduced the 4004 (right) to the worldwide market on November 15, 1971. The 4004 sold for $200 each.

1972: 8008 Microprocessor
The 8008 was twice as powerful as the 4004. A 1974 article in Radio Electronics* referred to a device called the Mark-8 which used the 8008. The Mark-8 is known as one of the first computers for the home --one that by today's standards was difficult to build, maintain and operate.
Number of Transistors: 3,500
Speed: 200KHz

1974: 8080 Microprocessor
The 8080 became the brains of the first personal computer--the Altair*, allegedly named for a destination of the Starship Enterprise from the Star Trek television show. Computer hobbyists could purchase a kit for the Altair for $395. Within months, it sold tens of thousands, creating the first PC back orders in history.
Number of Transistors: 6,000
Speed: 2MHz

1978: 8086-8088 Microprocessor
A pivotal sale to IBM's new personal computer division made the 8088 the brains of IBM's new hit product--the IBM* PC. The 8088's success propelled Intel into the ranks of the Fortune* 500, and Fortune magazine named the company one of the "Business Triumphs of the Seventies."
Number of Transistors: 29,000
Speed: 5MHz, 8MHz, 10MHz

IBM PC 1981 with Intel 8088 processor

1982: 286 Microprocessor
The 286, also known as the 80286, was the first Intel® processor that could run all the software written for its predecessor. This software compatibility remains a hallmark of Intel's family of microprocessors. Within 6 years of it release, there were an estimated 15 million 286-based personal computers installed around the world.
Number of Transistors: 134,000
Speed: 6MHz, 8MHz, 10MHz, 12.5MHz

1985: Intel386™ Microprocessor
The Intel386™ microprocessor featured 275,000 transistors--more than 100 times as many as the original 4004. It was a 32-bit chip and was "multi tasking," meaning it could run multiple programs at the same time.
Number of Transistors: 275,000
Speed: 16MHz, 20MHz, 25MHz, 33MHz

1989: Intel486™ DX CPU Microprocessor
The Intel486™ processor generation really meant you go from a command-level computer into point-and-click computing. "I could have a color computer for the first time and do desktop publishing at a significant speed," recalls technology historian David K. Allison of the Smithsonian's National Museum of American History. The Intel486™ processor was the first to offer a built-in math coprocessor, which speeds up computing because it offloads complex math functions from the central processor.
Number of Transistors: 1.2 million
Speed: 25MHz, 33MHz, 50MHz

1993: Intel® Pentium® Processor
The Pentium processor allowed computers to more easily incorporate "real world" data such as speech, sound, handwriting and photographic images. The name Pentium, mentioned in the comics and on television talk shows, became a household word soon after introduction.
Number of Transistors: 3.1 million
Speed: 60MHz, 66MHz

1997: Pentium II Processor
The 7.5 million-transistor Pentium II processor incorporates Intel MMX™ technology, which is designed specifically to process video, audio and graphics data efficiently. It was introduced in innovative Single Edge Contact (S.E.C) Cartridge that also incorporated a high-speed cache memory chip. With this chip, PC users can capture, edit and share digital photos with friends and family via the Internet; edit and add text, music or between-scene transitions to home movies; and, with a video phone, send video over standard phone lines and the Internet.
Number of Transistors: 7.5 million
Speed: 200MHz, 233MHz, 266MHz, 300MHz

1999: Pentium III Processor
The Pentium III processor features 70 new instructions--Internet Streaming SIMD extensions—which are designed to support advanced imaging, 3-D, streaming audio, video and speech recognition applications. It was designed to significantly enhance Internet experiences, allowing users to do such things as browse through realistic online museums and stores and download high-quality video. The processor was introduced using 0.25-micron technology.
Number of Transistors: 9.5 million
Speed: 650MHz to 1.2GHz

2000: Pentium 4 Processor
Users of Pentium 4 processor-based PCs can create professional-quality movies; deliver TV-like video via the Internet; communicate with real-time video and voice; render 3D graphics in real time; quickly encode music for MP3 players; and simultaneously run several multimedia applications while connected to the Internet. The processor debuted with 42 million transistors and circuit lines of 0.18 microns. Intel's first microprocessor, the 4004, ran at 108 kilohertz (108,000 hertz), compared to the Pentium® 4 processor's initial speed of 1.5 gigahertz (1.5 billion hertz). If automobile speed had increased similarly over the same period, you could now drive from San Francisco to New York in about 13 seconds.
Number of Transistors: 42 million
Speed: 1.30, 1.40, 1.50, 1.70, 1.80

August 2001: Pentium 4 Processor – hits 2 GHz milestone

November 2002: Intel Pentium 4 Processor with Hyper-Threading Technology
Intel introduces its innovative Hyper-Threading (HT) Technology for the new Intel Pentium 4 processor at 3.06 GHz. HT Technology enables a new class of high-performance desktop PCs that can work quickly among several computing applications at the same time, or provide extra performance for individual software programs that are multithreaded. In addition to bringing HT Technology to desktop PC users, Intel reached a PC milestone in launching the Pentium 4 processor at 3.06 GHz.

June 2003: Intel Pentium 4 Processor with Hyper-Threading technology introduced at 3.2 GHz

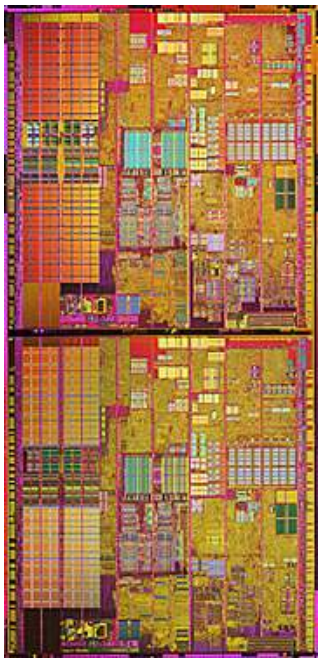
November 2003: **Intel Pentium 4 processor Extreme Edition supporting Hyper-Threading (HT) Technology** at 3.20 GHz is introduced. High-performance computers based on this new processor are designed for high-end gamers and computing enthusiasts and are now available from system manufacturers worldwide. Built on Intel's 0.13-micron process technology, the Intel Pentium 4 processor Extreme Edition features a 512-kilobyte Level 2 cache, a two-megabyte Level 3 cache and an 800 MHz system bus speed. This processor is compatible with the existing Intel 865 and Intel 875 chipset families and standard system memory. The two-megabyte Level 3 cache can preload a graphics frame buffer or a video frame before it is required by the processor, enabling higher throughput and faster frame rates when accessing memory and I/O devices. This results in more realistic game play and improved video editing performance. Increased CPU performance also enables software vendors to create sophisticated software physics engines, which allows realistic character movements, and artificial intelligence, allowing computer-controlled characters to be much more lifelike.

June 2004: Intel Pentium 4 Processor supporting HT Tech hits 3.4 GHz mark.

April 2005: Intel's first dual-core processor-based platform includes the Intel PentiumProcessor Extreme Edition 840 running at 3.2 GHz and the Intel® 955X Express Chipset. Dual- and multi-core processors are designed by including two or more full execution cores within a single

processor enabling simultaneous management of activities. When combined with Intel's Hyper-Threading Technology, which allows each execution core to present itself as two logical processors, the Intel Pentium Processor Extreme Edition 840 can process four software threads simultaneously by more efficiently using resources that otherwise may sit idle.

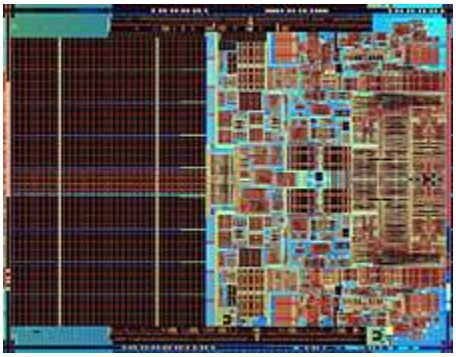
May 2005: Intel Pentium D processor with two processing cores – or “brains” – is introduced along with the Intel® 945 Express Chipset family with support for such consumer electronics-like features as surround-sound audio, high-definition video and enhanced graphics capabilities.



May 2006: Intel® Core™ 2 Duo brand announced

July 2006: Intel Corporation unveils ten new Intel Core 2 Duo and Core Extreme processors today for consumer and business PCs and laptops. The Intel Core 2 Duo processor family consists of five desktop processors tailored for business, home, workstation and enthusiast

users, such as high-end gamers, and five processors for the mobile lifestyle. Initial PCs are available today, with more desktop and laptops arriving throughout August. These Intel Core 2 Duo dual core processors are designed to provide energy efficient performance yet run demanding multiple applications faster, enabling users to improve tasks such as viewing and playing high-definition video more smoothly, protecting the PC and its assets during e-commerce transactions, and enable longer battery life with sleeker and lighter notebooks. The new processors provide as much as a 40% increase in performance and are 40 percent more energy efficient versus the best Intel Pentium processor[1]. The Core 2 Duo processors contain 291 million transistors.



For an online history of Intel microprocessors visit http://www.intel.com/museum/online/hist_micro/hof/index.htm

For more Intel microprocessor information see: http://www.intel.com/pressroom/kits/quickref.htm

For more information about Intel Intel Core 2 Duo prosessors www.intel.com/core2duo

[1] Benchmark results stated above reflect results published on http://www.spec.org as of July 27, 2006. The performance claims presented above are based on all the published Windows-based, single-socket system results. For the latest SPEC CPU2000 benchmark results, visit http://spec.org/cpu2000.