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Fact Sheet

INTEL® CORE™2 DUO DESKTOP PROCESSOR

EDITOR'S NOTE: "Conroe" was the project codename for the Intel® Core™2 Duo desktop processor. "Merom" was the project codename for the Intel® Core™ 2 Duo mobile processor.

Fact 1: The Intel® Core™ 2 Duo desktop processor provides 40 percent better performance and is 40 percent more energy efficient than the previous generation Intel® Pentium® D processor¹

- Makes ground breaking performance look effortless and easily breaks experience and performance records
- With greater power efficiency, PC designers can make systems smaller, sleeker and quieter, especially when combined with the Intel® 965 Express chipset family

Fact 2: The Intel Core 2 Duo processor is Intel's third generation dual-core processor for personal computers

- First generation was the Intel® Pentium® D processor for desktop PCs
- Second generation was the Intel® Core™ Duo processor for mobile PCs

Fact 3: The Intel Core 2 Duo processor's 65nm process technology is so small that...

- Approximately 1,400 of its transistor gates could fit inside the diameter of one human hair. (*The diameter of human hair is typically 50 microns*)
- More than 90,000 of its 1.2nm gate oxide layers would need to be stacked to achieve the thickness of a \$1 bill. (*The thickness of \$1 bill is ~0.0043 inches, 1 cm=0.3937inch*)
- The third quarter of 2006 marks Intel's fourth quarter of 65nm production

Fact 4: The Intel Core 2 Extreme processor is blazingly fast. Here are some industry-benchmark firsts²:

- First to hit 400 points on SYSmark*2004 SE³ ; Overall Score = 405
- First to hit 200 points on Webmark*2004³ ; Overall Score = 227
- First to hit 3000 points on SPECint*_base2000⁴ ; score = 3099
- First to hit 3000 points on SPECfp*_base 2000⁴ ; score = 3046

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Fact 5: To get another idea of the speed of the Intel Core 2 Duo processor...

- Intel's 4004 microprocessor, introduced in 1971, ran at 108 kilohertz (108,000 hertz). Intel Core 2 Duo processors exceed speeds of 2 GHz (2 billion hertz). If the speed of an automobile had increased since 1971 at the same pace as chip speed, you would now be able to drive from San Francisco to New York City in less than 10 seconds. (*assumes the car speed in 1971 was 60 mph and the distance from San Francisco to New York is 3,000 miles*)

Fact 6: The Intel Core 2 Duo processor contains a whopping 291 million transistors

- That's nearly a transistor for every man, woman and child in the United States.
- There are more transistors in an Intel Core 2 Duo processor than there are minutes in 552 years.
- If you had a penny for every transistor in an Intel Core 2 Duo processor, you would get a stack of pennies 284 miles high. If you spread the pennies out, side by side, the distance span would be longer than the distance between New York and San Francisco. (*Penny thickness = 0.0625 inches, W = 0.75 inches, H = 0.75 inches. Distance from New York City to San Francisco is about 3,000 miles*)

Fact 7: The Intel Core2 Duo desktop processor is expected to ramp faster than the original Intel® Pentium® processor and Intel® Pentium® 4 processor and new micro-architecture ramps

- Intel anticipates exiting this year delivering at a combined rate of over 75 percent dual-core performance and mainstream segment desktop PC processors.

Fact 8: The best Intel-based business PCs are based on Intel® vPro™ technology, powered by Intel Core 2 Duo processors

- Compared to our stable professional platform just one year ago, Intel vPro technology, featuring the Intel Core 2 Duo processor, offers up to twice the performance, Intel Active Management Technology and virtualization capabilities at about the same introductory system price.
- Using vPro technology can significantly reduce desk-side visits and manual processes. Only 5 to 15 percent of PC problems require a desk-side visit, but those calls drive about 50 percent of PC support costs (Intel/Zenith).

Fact 9: The best Intel-based consumer PCs are based on Intel® Viiv™ technology, powered by the Intel Core 2 Duo processors-

- The latest Intel Viiv Technology platforms with Core 2 Duo processors offer exceptional performance for high-definition playback and for supporting multiple media streams simultaneously. And the time is right for digital entertainment! More people will download music this year than will purchase physical media (Instat) and more than 80 million people will buy digital audio players this year – that's one for every person in Germany (ABI Research).

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Fact 10: An Intel Core 2 Duo processor inside an Intel Viiv Technology-based PC is blazingly fast for digital media creating and editing.

- An Intel Viiv Technology platform with the Intel Core 2 Duo processor inside can auto-correct 65 more photos in the same 5 minute period than previous generation processors and convert the 36 more songs in the same amount of time than previous generation processors⁵

A SAMPLING OF FUN QUOTES

Quote 1: [Game Over? Core 2 Duo Knocks Out Athlon 64](http://www.tomshardware.com/2006/07/14/core2_duo_knocks_out_athlon_64/), Tom's Hardware

(http://www.tomshardware.com/2006/07/14/core2_duo_knocks_out_athlon_64/)

“Core 2 Duo shall become the undisputed leader in performance and performance per Watt”

“As soon as Core 2 Duo hits the market, it will outperform the complete Athlon 64 family (X2 and FX) in all areas, including gaming, where AMD has traditionally been very strong”

Quote 2: [Intel's Core 2 Extreme & Core 2 Duo: The Empire Strikes Back](http://www.anandtech.com/cpuchipsets/showdoc.aspx?i=2795), Anandtech

(<http://www.anandtech.com/cpuchipsets/showdoc.aspx?i=2795>)

“You're instead looking at the most impressive piece of silicon the world has ever seen, at the fastest desktop processor we've ever tested. What you're looking at is Conroe and today is its birthday.”

“Intel's Core 2 Extreme X6800 didn't lose a single benchmark in our comparison, not a single one.”

Quote 3: [First "Conroe" Core 2 PC Delivers Amazing Benchmark Results](http://www.pcmag.com/article2/0,1895,1985983,00.asp), PC Magazine Online

(<http://www.pcmag.com/article2/0,1895,1985983,00.asp>)

“The Falcon Northwest Mach V runs Intel's long-awaited Core 2 processor (formerly known as Conroe). It's the new desktop performance champ, and the one others will be chasing around the track for quite a while.”

Quote 4: [Intel's New Core 2 Duo Processors Run Blazingly Fast in PC World Tests](http://www.pcworld.com/reviews/article/0,aid,126342,00.asp), PC World

(<http://www.pcworld.com/reviews/article/0,aid,126342,00.asp>)

“Exclusive *PC World* tests show that PCs equipped with Intel's new Core 2 Duo processors, formerly code-named Conroe, set new high marks for desktop performance—they're the fastest we've seen by far.”

“Both of the Intel setups bested the AMD-based system on every test in our WorldBench 5 suite as well as on every one of our gaming tests.”

Quote 5: [Intel Core 2 Extreme X6800 & Core 2 Duo E6700 Processor Review](http://www.sharkyextreme.com/hardware/cpu/article.php/3261_3620036_12), Sharky Extreme

(http://www.sharkyextreme.com/hardware/cpu/article.php/3261_3620036_12)

“The launch of the Core 2 processor line has hit the market with a bang, and offers up an incredible combination of performance and value, coupled with low heat and power specifications. These processors are so good, that it's difficult to highlight any real

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negatives. The Core 2 Extreme and Duo processors offer record-breaking performance, industry leading power specs, and are priced so that virtually anyone can afford one. It has been a long time since we have seen a processor walk over the competition like this, and we should all thank AMD for bringing out the very best from Intel, as well as proving that competition does indeed work.”

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Why are Intel Core 2 Duo processors the world's best processors? Please visit www.intel.com/core2duo

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¹ Performance based on SPECint*_rate_base2000 (2 copies) and energy efficiency based on Thermal Design Power (TDP), comparing Intel® Core™2 Duo E6700 to Intel® Pentium® D Processor 960. Actual performance may vary. See www.intel.com/performance for more information.

² Configuration Details: Intel® Core™ 2 Extreme Processor X6800 (4MB L2 Cache, 2.93GHz, 1066MHz FSB), Intel Desktop board DG965WH, Intel chipset software installation file 8.0.1.1002, Intel Matrix Storage Manager 6.0.0.1022 RAID-0 Ready, ATI* Radeon* X850 XT PCIe, ATI Catalyst Driver 8.263.0.0, 2x1GB Corsair* DDR2 1066 5-5-5-15 set to DDR2 800 5-5-5-15 in BIOS, Maxtor* DiamondMax* 10 300GB NCQ Serial ATA 7200RPM, Windows* XP Professional Build 2600 SP2 NTFS, DirectX 9.0c.

³ First system to reach an overall score of 400 on SYSmark*2004 SE and an overall score of 200 on WebMark*2004 based on results submitted to BAPCo by July 18th, 2006

⁴ Benchmark results stated above reflect results published on <http://www.spec.org> as of July 27, 2006. The performance claims presented above is based on all the published Windows-based, single-socket system results. For the latest SPEC CPU2000 benchmark results, visit <http://www.spec.org/cpu2000>

⁵ Calculation for photos based on Adobe* Photoshop Elements* 4.0 running the auto smart fix feature to correct and enhance 103 jpeg images (with average size of 600KB) Calculation for music based on iTunes* 6.0.4.2 converting 74 minutes of music (718MB) from WAV format to MP3. Assume 1 song equals 3 minutes. **Source:** Intel. **Configuration:** 1st = Intel Core 2 Duo Processor E6700 (4MB L2, 2.66GHz, 1066MHz FSB) with Intel Viiv Technology, Intel® P965 Chipset, Intel® DG965WH, Chipset Install file 8.0.1.1002, Corsair* 2x1GB DDR2 800 5-5-5-15, Intel Matrix Storage Manager 6.0.0.1022 RAID-0 Ready. 2nd & 3rd = Intel Pentium D Process 960 (2x2MB L2, 3.60GHz, 800MHz FSB) with Intel Viiv Technology, Intel® 945G Express Chipset, Chipset Install file 7.2.2.1007, Micron* 2x1GB DDR2 667 5-5-5-15, Intel Matrix Storage Manger 5.5.0.1035 RAID-0 Ready. All = Maxtor* DiamondMax*10 300GB NCQ SATA 7200RPM, ATI* Radeon* X1900 XTX PCIe, ATI* Catalyst* 6.6 driver suite 8.263.0.0, Windows* XP Media Center Edition Build 2600 SP2 NTFS, DirectX 9.0c. Performance tests and ratings are measured using specific systems and/or components and reflect approximate performance of Intel products as measured by those tests. Any difference in system hardware, software, or configuration may affect actual performance. Buyers should consult other sources of information to evaluate system or component performance they are considering purchasing. For information on performance tests and performance of Intel products, visit <http://www.intel.com/performance/resources/limits.htm>