Fun Facts: 2nd Generation Intel® Core™ Processor Family

The 2nd Generation Intel® Core™ processor family represents the biggest advance in computing performance and capabilities over any other previous generation. Based on Intel’s-32 nanometer (nm) process technology, the new chips are the first “visibly smart” microarchitecture to combine visual and 3-D graphics technology with performance-leading microprocessors on a single chip. For consumers, this means a dramatically improved PC experience with overall better power management, greater efficiency and increased battery life.

Some interesting and fun facts include:

- Compared to previous generations, content creation is up to 42 percent faster and gaming up to 50 percent faster with 2nd Generation Intel Core processors.

- There are close to 1 billion transistors inside a 2nd Generation Intel Core processor. If a car were to have 1 billion parts – compared to the 30,0001 they currently have – it would take the most productive car manufacturer 114 years to assemble this car.2

- If a processor were a country and its transistor count was a country’s population, a 2nd Generation Intel Core processor would be the third most populated country in the world (995 million+) just behind China and India.

- If you applied new Intel® Turbo Boost Technology to your daily activities, you could accomplish more in less time, giving you up to 4 hours of your day back -- time that was previously spent waiting for your technology.

- A 2nd Generation Intel Core processor contains 540 million more transistors than the number of registered cars in the European Union3, the United States4 and the Asia Pacific region5 combined.

- If every home in the United States had 30 light switches it would take the new chips about 1 nanosecond to turn on all 3.57 billion light switches.

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1 Toyota, 2010  
2 Harbour Report, 2010  
3 ACEA, 2010  
4 USA DOT, 2010  
5 China Auto Web, 2010
• A 32nm transistor found in the new chips can switch on and off more than 300 billion times in 1 second. It would take you 4,000 years to flick a light switch on and off that many times.

• If you equate the power consumption of a laptop based on the 2nd Generation Intel Core processors to an electric clothes dryer, drying one load for 60 minutes is equivalent to running a laptop for 147 hours or 6 days and 2.4 hours. If you compare the processor to an electric oven, baking a pizza for 45 minutes at 350 degrees (Fahrenheit) is equivalent to running 67 laptops for 50 hours.

• Compared to Intel’s first microprocessor, the 4004, introduced in 1971, a 32nm CPU runs over 4,000 times as fast and each transistor uses about 4,000 times less energy. The price per transistor has dropped by a factor of about 100,000.

• The Intel Core processor is printed on very pure silicon, which is refined from common beach sand. So the sand you once stepped on at the beach may be powering your notebook today.

• If you were to take the performance boost enabled by Intel® Turbo Boost to graphics-intensive applications and apply it to a Boeing 767 airplane, the jet could travel 50 percent faster. This means a flight that usually lasts 1 hour would take only 40 minutes.

• If you were to take the performance boost from the 2nd Generation Intel Core processor over the previous-generation Intel Core processor and apply it to a Boeing 767 airplane, the jet could travel two times faster. This means a flight that usually lasts 2 hours would take only 60 minutes.

• Integrating processing cores, memory controller and graphics subsystems on the same 32nm die joins a list of other disruptive technology “marriages” such as:
  o Cell Phones + Wireless Internet Access
  o Cloud Computing + Always-On Devices
  o Blogs + Google* Ads
  o MP3 + Napster*
  o YouTube* + Flip Cams
  o Internet + TV

• The 2nd Generation Intel Core processor family is viewed by analysts as one of Intel’s most important product cycles ever.  

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6 Morgan Stanley, Tech Trader Daily
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