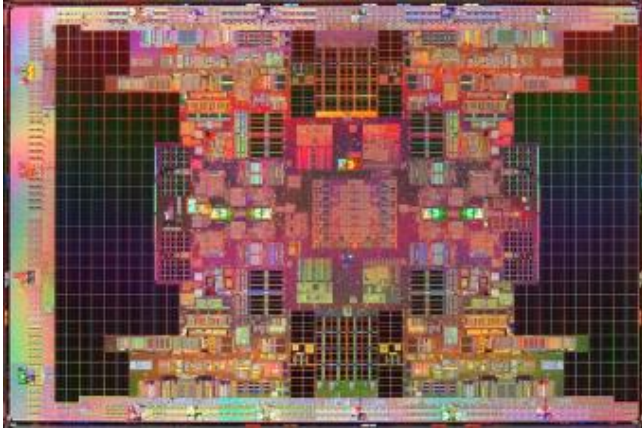


# Intel Microchip Packs Two Billion Transistors



Intel's Tukwila chip contains more than 2 billion transistors - twice the number from two years ago.

**Intel has just announced the first microchip that contains more than two billion transistors - tiny switches that together perform the calculations in computers. The chip, known as Tukwila, marks a milestone in chip density technology.**

Intel explains that the quad-core chip is designed for high-end servers rather than personal computers. Many of the chip's two billion transistors are used for on-board memory, helping the system process data faster. According to a news report by the BBC, the chip is based on 65-nanometer technology, meaning it contains features just 65 nanometers wide.

A chip with two billion transistors was not unexpected by the industry, as the new density closely follows Moore's Law. The law states that the number of transistors on a chip seems to double every two years, which was originally observed by Intel co-founder Gordon Moore in 1965.

Sure enough, in 2006, Intel released the first chip to contain more than one billion transistors. In 2004, the leading chip of the day contained 592 million transistors. Tukwila's successor, the "Poulson," is expected to be released sometime between 2010 and 2011.

Intel plans to begin implementing the first version of Tukwila in the second half of 2008, when it will replace Intel's previous dual-core chip, the 9100 series called Montvale. Tukwila will double the overall performance of Montvale as measured by industry standards, with a 25% increase in power.

Unlike most newer chips, Tukwila is not designed as a low power consumption processor. Instead, Intel is aiming the chip at companies that demand high performance at the expense of more power.

Tukwila operates at speeds of up to 2 GHz, the equivalent of a standard PC chip. (The fastest chip, released last year by Intel, operates at 4.7 GHz. This dual-core chip, called Power6, contains 790 million transistors.)

Intel will demonstrate Tukwila, as well as a chip designed for "ultra-mobile" devices called Silverthorne, at the International Solid State Circuits Conference (ISSCC) in San Francisco this week.

via: [the BBC](#) and [ZD Net](#)

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