

Samsung Demonstrates World's First DDR 3 Memory Prototype

February 17 2005

Samsung Electronics Co., Ltd., has produced the world's first DDR3 (double-data-rate) DRAM (dynamic random access memory) prototype chip. The new 512Mb DDR3 DRAM, can process data at the extraordinary rate of 1,066Mbps, and will be available in early 2006.

DDR DRAM - short for Double Data Rate DRAM, a type of SDRAM that supports data transfers on both edges of each clock cycle (the rising and falling edges), effectively doubling the memory chip's data throughput. The DDR2 memory cell is still clocked at the same frequency as DDR SDRAM and SDRAM cells, but the frequency of the input/output buffers is twice higher with DDR2 SDRAM.

The operation speed of DDR3 doubles that of DDR2 and quadruples DDR, opening the platform to gigabit-rate data processing. It also will make use of highly advanced 80nm production technology and include new functionality to permit its unprecedented processing speeds, such as self-driver calibration and data synchronization.

Samsung's DDR3 prototype is the first memory chip to operate on just 1.5 volts, making it less of a drain on batteries, in an increasingly wireless world.

The newly developed DDR3 will become the standard for the next generation of ultra-fast, low-power-consuming memory chips used in notebook computers, desktops and servers.

"Our success here with DDR3 continues our relentless push to bring the most advanced memory devices to the market at the fastest possible pace," said Tom Quinn, senior vice president, memory sales and marketing, Samsung Semiconductor.

Samsung Electronics was the first to produce a DDR DRAM and DDR2 DRAM in 1998 and 2001 respectively. In December 2003, the JEDEC standards organization presented Samsung with its Technical Recognition Award for the company's efforts in standardizing DDR2. Now, Samsung Electronics 512Mb DDR3 prototype will open the door to a new era of ultra-fast computer application processing with reduced power consumption, while the company plays a major role in DDR3 standardization.

Samsung's portfolio for next-generation DRAMs includes XDR, DDR2 and now the DDR3 memory.

IDC, the semiconductor market research firm, predicts that the first DDR3 DRAMs will be sold in 2006 and that the chip will represent 65% of the entire DRAM market in 2009.

Citation: Samsung Demonstrates World's First DDR 3 Memory Prototype (2005, February 17)
retrieved 2 May 2024 from

<https://phys.org/news/2005-02-samsung-world-ddr-memory-prototype.html>

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