

Samsung Executive Predicts Memory Shortages

Surging demand for flash memory driven by multimedia consumer devices could lead to future memory shortages, a Samsung Semiconductor executive warned.

By George Leopold, EE Times

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ANAHEIM, Calif. — Surging demand for flash memory driven by multimedia consumer devices could lead to future memory shortages, a Samsung Semiconductor executive warned Tuesday (June 14).

Jon Kang, senior vice president of technology marketing for Samsung's chip unit, told the Design Automation Conference (DAC) here that memory demand is surging as more memory-hungry multimedia applications are integrated into cellphones — especially 3G phones.

Kang predicted that memory used in multimedia mobile phones will equal PCs by 2007. Digital content and new applications like digital cameras, recorders, MP3 players, television and even GPS are driving memory demand in cellphones.

"I never imagined consumer products using this much memory," Kang said in a DAC speech. The result, he warned, could be "massive oversupply or massive undersupply" as memory vendors attempt to shift between NAND and NOR flash technologies.

The failure of memory vendors to make a quick transition from one flash technology to another in emerging consumer devices could lead to shortages just as the flash market explodes, Kang said.

"The [memory] market will shift, the market is not stable," the Samsung executive warned, calling the situation a "perfect digital storm."

Market researchers such as Semico Research Corp. (Phoenix) are forecasting record revenues for NOR flash approaching \$11 billion in 2007, but not before the market contracts this year.

The increase in high-density memory used in consumer devices is also fueling an annual doubling of Samsung's flash memory density, Kang said. The chip maker just announced it was ramping production of 70-nm flash memory and is working on a 60-nm version. Further out, it is proposing a "fusion memory" that combines NAND flash, SRAMs, logic and analog circuitry on the same device. The target application is mobile devices.

At the same time, the chip maker is pressing ahead with multichip packaging technologies that will allow the incorporation of more memory in consumer devices. It rolled out an 8-chip package in January with 3.2 Gbytes of memory. Kang said he expects system-in-package technology will also be needed to integrate CPUs and memory into gadget-filled mobile phones.

That's where the EDA industry enters the picture, Kang said. "The chip guys must work with the EDA industry to achieve the time-to-market" goals that are vital to competing in the consumer market.