AMD Griffin

The Sunnyvale, Calif.-based chipmaker is prepping an energy-efficient notebook chip, code-named Griffin, as well as a platform based around Griffin called Puma, (similar to Intel's Centrino) that will likely allow AMD to better compete in the rapidly growing notebook market.

Griffin will go into mass production toward the end of the year and Puma-based notebooks sporting the chips will hit in mid-2008….

Intel has produced chips sporting architectures optimized for notebooks since 2003 and has come out with new versions at a somewhat regular pace. Partly as a result, Intel has maintained a larger market share in laptops over AMD than in other markets.

After Griffin's release, AMD will follow with Fusion, a chip that integrates graphics into the processor core in 2009, he said. Fusion will first appear in notebooks. (Last year, AMD said Fusion would come out in 2008 or 2009.)

Griffin is AMD's first chip specifically designed for notebooks, said Steinman. AMD sells chips tweaked for notebooks now, but these products are effectively just more power-efficient versions of the other chips AMD sells into other markets.

Source: New York Times, May 18, 2007,
"AMD's new Puma stalking Intel's Centrino"

AMD Griffin

"If you look at our current offerings, it's really the same basic microarchitecture being offered in notebooks, servers and desktops," he said….

In Griffin, for instance, the two processing cores and the integrated memory controller--which shuttles data back and forth between the processing cores and memory--***are all on separate power planes.*** By separating all of these subcomponents in Griffin onto different planes, ***two can go into deep sleep states while the last one continues to work.*** The ***memory controller can also operate at a lower voltage.***

In Barcelona, an upcoming four-core server chip from AMD, the memory controller is on a separate power plane, but the ***four cores are all on the same voltage plane,*** he said. Power consumption is important in servers, but not to the same degree as with notebooks, noted Steinman.

Griffin will also be able to drop to slower speeds when full performance isn't needed. Currently, AMD chips can drop to 800 megahertz. The cores in Griffin, independent of each other, ***will be able to drop to one-eighth the chip's stated speed.*** Thus, if it's a 2.4GHz chip, a single core will be able to drop to 300MHz to conserve power….

Source: New York Times, May 18, 2007, "AMD's new Puma stalking Intel's Centrino"

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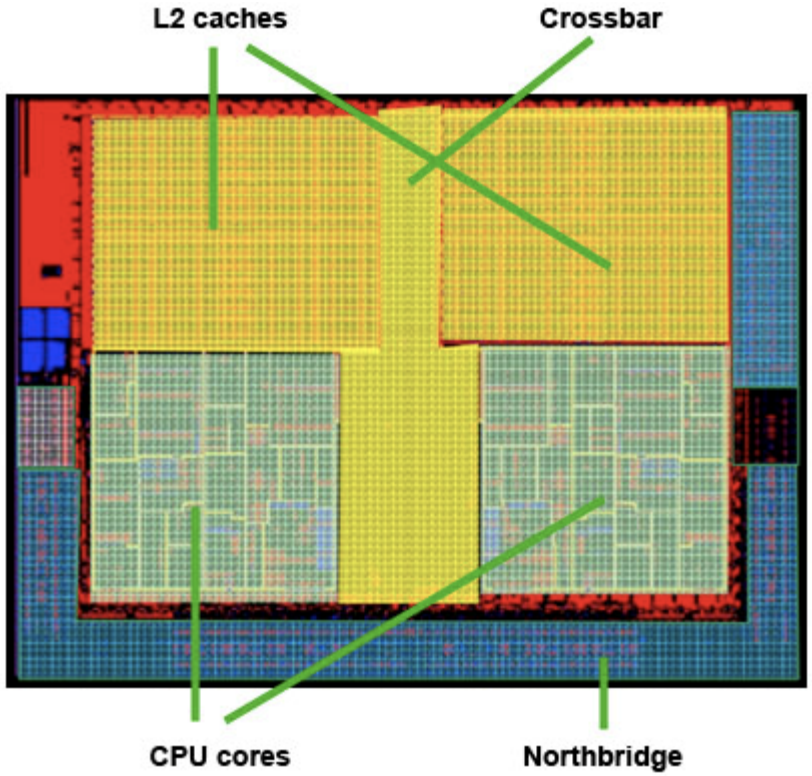
The chip will initially come out on the 65-nanometer process. Each core will contain a 1MB cache.

Puma, meanwhile, will continue the power management theme by coming with a feature, called PowerXpress that shuts off the discreet graphics processor in notebooks when they are running on batteries. In the unplugged mode, notebooks will run on the graphics capabilities in the chipset….

In 2003, Intel came out with Centrino, a notebook platform designed around the then new Pentium M. The Pentium M relied on a different architecture than other Intel chips at the time and consumed substantially less power. Centrino also came with Wi-Fi chips, rare then, and the notebooks were tuned to ensure they would work with public hot spots. Sales zoomed and the success helped spur Wi-Fi adoption.



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