

# Coppermine comes Monday, but Camino has to wait

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(CNN) - Intel Corp. plans to unveil its fastest-ever Pentium III chips Monday, but analysts said the launch -- a key one for the chip maker -- may be overshadowed by the lack of a much-anticipated chipset, which will delay products from some PC makers.

Santa Clara, Calif.-based Intel said it will unveil 15 processors for desktop computers, workstations, servers and notebook computers, including the much-anticipated chip family, code-named Coppermine, with speeds above 700 megahertz. An Intel spokesman said he couldn't provide any further details about the new products.

Rival Advanced Micro Devices Inc. introduced a 700 megahertz version of its Athlon chip family earlier this month, as it steps up the battle with Intel in the area of power PCs.

Coppermine is the code-name for its next series of Pentium III chips for desktops and mobile computers, designed using its new 0.18 micron process technology, which creates transistors with finer line widths.

The Coppermine L2 cache - a quick short-term memory on the chip itself - is not only larger than that in previous Pentium IIIs but also runs at the full speed of the chip, rather than half-speed as before. The L2 cache on the low-cost Celeron chips also runs at full speed.

Intel said the launch Monday will include the next Pentium III Xeon processors for the more powerful server computers and workstations, code-named Cascades.

Analysts said the launch of this family of products is important for the world's largest chip maker because the new processors, some expected to run at speeds of 700 megahertz and higher, will let Intel again say it has the fastest PC chips. AMD's Athlon launched to fawning reviews and has posed the first serious threat to Intel microprocessor dominance in recent memory.

The launch also is key for Intel because manufacturing these new members of its Pentium III family using new process technology eventually will lead to lower manufacturing costs for these higher profit margin chips.

In Intel's most recent third quarter, its earnings were below Wall Street's expectations, due in part to lower prices for its products and a slower-than-expected move to its new process technology.

"It's extremely important for Intel because this is what is going to allow them to deploy a lower-cost, higher-performance Pentium III and continue to fuel the high-end of the product mix," said Mark Edelstone, an analyst with Morgan Stanley Dean Witter.



Analysts said the chips' power consumption also is lower because the transistors are smaller, so Intel will have the first Pentium III chips for notebook computer users. Previous versions of the Pentium III run too hot for laptop users.

But analysts said the launch isn't expected to include Intel's 820 chipset, code-named Camino, which was delayed suddenly last month. The delay will adversely affect some PC makers, like Dell Computer Corp. (DELL), which had product launches tied to the processor and the chipset.

The Intel 820 refers to the chipset that resides on the computer motherboard. Camino provides support for the 4x Advanced Graphics Port and a faster 133Mhz system bus.

The chipset is the first use of a memory-enhancing technology developed by Rambus Inc., based in Mountain View, Calif. Certain systems were experiencing intermittent errors at extreme temperatures and voltages, and the companies said two weeks ago that they were working to resolve the bugs.

"They have the problem solved and they are testing the fix," said Linley Gwennap, editorial director of Microprocessor Report. "They have to make sure the fix doesn't cause another problem...Everyone wants to stand up on the stage and say the chipset is ready. But they can't commit to anything unless it is 100 percent validated."

An Intel spokesman declined to comment on the chipset status or if it will be introduced Monday. Meanwhile, some PC makers are unable to ship their new products until the 820 chipset is ready. Some are looking at alternatives, such as Intel's other chipset, the 810E, but it doesn't have the same graphics performance.

"PC makers are in a holding pattern," said Nathan Brookwood, an analyst with Insight 64 in Saratoga, Calif. "Either they (Intel) sort out the 820/Rambus problems or they will have an awkward launch next week."

Rambus couldn't be reached for comment.

A spokesman for Dell Computer in Round Rock, Texas, said Dell will introduce systems based on the new Pentium III chips, but he didn't yet have any further details, such as the timing of those products.

"We are going to have a server product next year that runs Coppermine," said a spokesman for International Business Machines Corp. (IBM).

At least one PC maker, Nampa, Idaho-based Micron Electronics Inc., has decided to go with a competing chipset from VIA Technologies Inc. of Taiwan.

"Micron chose the new VIA technology because it found the chipset coupled with standard 133 megahertz synchronous dynamic random access (SDRAM) memory delivers virtually the same or better performance as systems equipped with the substantially more costly RAMBUS technology," Micron said.

"This has been a pretty painful transition for them (Intel) and for the industry," said Michael Feibus, an analyst at Mercury Research. "It's very hard to work with Rambus. The bus is very fast and very alien to how everyone is used to working...Intel is feeling a lot of pain there."