

Replace End-of-Life Notebooks With New Pentium 4-M Chips

Leslie Fiering

Intel hopes its new Pentium 4 processor-M (Pentium 4-M) chip, designed specifically for notebook computers, will discourage vendors from using desktop processors in notebooks.

NEWS ANALYSIS

Event

On 4 March 2002, Intel announced the Pentium 4-M for mobile PCs. The new chips will run at speeds of 1.6 GHz and 1.7 GHz. Vendors, including Hewlett-Packard, Toshiba, IBM, Compaq Computer, Sony and Dell Computer, announced full-size notebooks, weighing 7 to 8 pounds, that use the processor. Acer, Fujitsu Siemens and Winbook announced thin and light products weighing 5 to 6 pounds. Notebook vendors will likely announce additional products through mid-April 2002.

Analysis

The Pentium 4-M uses a mobile-optimized version of the 845 chipset that adds power management and deeper sleep states to allow operation at cooler temperatures and longer battery life. The Pentium 4-M launch will help Intel narrow the price/performance gap between the previous notebook processor, Pentium III-M and the desktop Pentium 4. The lack of a high-performance mobile processor had led many Taiwanese vendors — and ultimately Fujitsu Siemens and Toshiba — to introduce notebooks using the desktop processor. Intel will price the Pentium 4-M to discourage this practice.

Although the Pentium 4-M addresses the price/performance needs of full-size as well as thin and light notebooks, it still runs too hot to use in 2- to 4-pound "ultralight" portables. Those systems will continue to use the mobile Pentium III. In 1H03, Intel will reportedly ship Baniyas, a processor optimized for notebook use. Baniyas will have lower power draw and a cooler thermal envelope than Pentium III-M or 4-M, thereby making it ideal for smaller notebooks. Intel will likely add other features to make the Pentium 4-M the unequivocal notebook choice.

Having multiple mobile processor parts will provide challenges for both Intel and notebook vendors. Vendors face challenges through 1Q03 because of the wide variety of mobile processors Intel will offer during 2002 and into early 2003. Intel will have to differentiate the mobile processors in a way that generates customer demand and eases some of the vendors' burden.

The introduction of Intel's new, higher performance mobile processors removes any need for users to consider desktop Pentium 4s for notebook use. Throughout 2002, until Baniyas appears, Pentium 4-M systems should replace notebooks that have reached the end of their useful life.

Analytical Source: Leslie Fiering, Hardware Platforms Worldwide

Need to Know: Reference Material and Recommended Reading

- "Toshiba's Pentium 4 Notebook Will Succeed in Niche Markets" (FT-15-5330). Gartner expects Toshiba's Satellite 1905 notebook to do well in several niche markets, despite consumer concern about weight and battery life in notebooks using desktop processors. **By Leslie Fiering**
- "Notebook Trends for 2002" (T-15-2808). Describes trends regarding wireless capability, prices and other market issues. **By Leslie Fiering**

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