

# TIDBITS

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## ◆ WILLAMETTE NAMED PENTIUM 4

On June 28, in a move that surprised absolutely no one, Intel announced it had decided on Pentium 4 as the brand name for its next-generation microprocessor, code-named Willamette. Although the company could surely have come up with a more innovative name for its next-generation microarchitecture, it simply has too much marketing capital invested in the Pentium name to abandon it. Furthermore, the company is in the midst of trying to establish Itanium as a new brand name for its next-generation 64-bit instruction-set architecture; trying to establish another new name for Willamette at the same time might have created considerable confusion in the marketplace.

The only minor surprise about the new brand name is that Intel decided to eschew the Roman numerals it had used in the previous Pentium II and Pentium III generations for the less pretentious Arabic numeral in Pentium 4. Perhaps the company foresaw a long-term problem for future generations, such as Pentium XXX. —K.D.

## ◆ CELERON INCHES TOWARD 1GHZ

On June 26, Intel announced the availability of three new Celeron speed grades: 633, 667, and 700MHz. Like all Celerons, the new speed grades operate at a bus speed of 66MHz, bringing the clock multiplier to a staggering 10.5x. Pentium IIIs with twice the amount of on-chip cache operate at only a 7.5x multiplier, even at speeds of 1GHz. With a 10.5x multiplier and a small 128K L2, Intel has taken Celeron well beyond the point of diminishing performance returns for increased clock rate. In the sub-\$1,000 market where Celeron is focused, however, frequency is still more important than performance, so Intel may get away with the slow 66MHz bus for this round of frequency increases. But it will soon have to boost Celeron bus speeds to 100MHz or higher if it expects performance to improve much with frequency.

The three new Celerons are offered in flip-chip PGA packages and, in quantities of 1,000 units, list for \$138, \$170, and \$192, respectively. —K.D.

## ◆ TSMC TURNS INDUSTRY ON HEAD

In a dramatic reversal of roles, TSMC—the world's largest semiconductor foundry (see *MPR 6/5/00-01*, "TSMC Sets Sights on #1")—has become the first foundry in history to license its semiconductor technology to a large integrated-device manufacturer (IDM): National Semiconductor. Previously, semiconductor foundries like TSMC have always looked to IDMs as the source of IC-process technology.

Under their agreement, TSMC will transfer several 0.25- to 0.10-micron logic and embedded-memory processes to National for implementation in that company's South Portland (Maine) facility. TSMC's processes are restricted to use at the South Portland site. With this move, TSMC expects to gain access to excess capacity at that facility, and it will also receive license and royalties for parts National manufactures using TSMC processes. —K.D.

## ◆ AMD BOOSTS MOBILE K6-2+ TO 550MHZ

On June 26, AMD announced the availability of 0.18-micron Mobile K6-2+ processors running at 533MHz and 550MHz. Perhaps most noteworthy about the announcement is that HP will use the new processors in its HP Pavilion N3300 notebooks with the PowerNow feature enabled. AMD claims PowerNow can extend battery life in notebooks by up to 30%. Other OEMs, including Compaq, Fujitsu, and NEC, are already using K6-2+ chips but are not using the PowerNow feature. AMD worked with Phoenix Technologies and Insyde Software to incorporate the BIOS changes needed to take advantage of PowerNow.

The new K6-2+ speed grades operate on a core voltage of 1.4V to 2.0V and dissipate less than 3W of power in the battery-saver mode. The parts have a 100MHz Socket 7 front-side bus and are offered in a 321-pin CPGA. List prices in quantities of 1,000 parts are \$99 for the 550MHz part and \$85 for the 533MHz part. —K.D. ◆