

Mendocino Improves Celeron 1
 Intel finally brings respectable performance to its Celeron line by replacing its Covington processor with Mendocino. The new 333-MHz processor, the first ever Intel microprocessor to integrate an L2 cache on chip, improves Celeron's performance by more than 25%. At the same time, Intel boosts its top-of-the-line Pentium II to 450 MHz.

Editorial: Intel Tries Integrating Graphics 3
 With its upcoming Whitney chip set, Intel is about to embark on a path of integrating graphics. This could be part of a strategy to renew demand for high-performance processors and position itself to reap the rewards. If it is, the strategy is in trouble: Whitney won't cut it.

Most Significant Bits 4
 SiS and VIA integrate graphics; Aureal spins Vortex; Intel buys into E&S; K6-2 checkmates chessmaster.

Embedded News 5
 Settlement between 3Dfx, Sega game graphics; NEC releases 144-MHz V832; Motorola PowerPC 603e-266 gets hot; Mitsu M32Rx/D increases speed, capacity; Panasonic promotes proprietary processor; Erratum: NEC VR5432.

SOI to Rescue Moore's Law 8
 In its second major semiconductor innovation within a year's time (the first being copper interconnect), IBM is bringing silicon-on-insulator technology to mainstream microprocessors. The new technology can boost microprocessor speeds by up to 35% over conventional bulk-CMOS processes, or it can reduce their power consumption by up to 65% at the same speed, for only a small additional cost. The new process puts IBM at least a year or two ahead of the rest of the semiconductor industry. The company will apply the technology first to its PowerPC processors beginning early next year.

PowerPC 750 Speeds Up, Powers Down 13
 In a move that should boost Apple's fortunes, Motorola will raise the frequency of its PowerPC 750 by 20% while at the same time reducing its power consumption by 35%. The trick was turned by substituting transistors from the company's next-generation 0.25-micron process into the existing 0.27-micron design.

Viewpoint: W(h)ither Intel 14
 Intel is facing a serious—perhaps even life-threatening—problem: the supply of microprocessor performance has outstripped demand. Having built its business model on the assumption of an ever-increasing demand for performance, Intel now faces rapidly declining ASPs and intense competition. The company is desperately trying to rectify the situation, but many of its plans are doomed to failure, and the situation may already be hopelessly lost.

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The Slater Perspective and Chart Watch will return next issue.

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