## GLANCE NEC's latest MIPS chip is a 250-MHz superscalar screamer with an on-chip floating-point unit. The VR5400 is the first chip to implement some of the MDMX multimedia extensions. At \$70, it's priced for high-end embedded applications with a need for performance, including network boxes and fast printers. NEC developed the VR5400 design with Sandcraft, a new Silicon Valley CPU-design shop. The market for low-cost PCs is growing but constitutes less than 10% of the worldwide PC market, contrary to popular perception. This market will provide a small foothold for Intel's competitors. IBM to build chips for AMD; Tanner bridges to Slot M; Samsung may design Alpha chips; Nvidia regains 3D speed lead; 3Dlabs signs SGS-Thomson as second source; Next-generation PowerVR planned. Embedded News......5 Intel finally embraces StrongArm; Falling Apple kills Newton; Motorola speeds embedded PowerPC EC603e; Xilinx offers microprocessors in FPGAs; Lucent gets ASIC license for NEC's V850. Few new memory chips appeared at ISSCC, but CPUs abounded. IBM hit clock-speed highs with a 1-GHz PowerPC chip and disclosed a multithreaded AS/400 processor. Intel disclosed new details about its forthcoming Slot 2 processors. New information on AMD's 3D instruction extensions and Digital's StrongArm proved valuable. At its Meltdown conference, Microsoft disclosed its plans for merging Windows 9x and Windows NT. DirectX 6 will appear in both Win98 and NT 5.0, and the final merger will occur around 2000 with the release of NT Consumer, obsoleting Windows 98. David Patterson, an early RISC pioneer, is working on a new processor paradigm that merges vector processing with on-chip DRAM. This method unlocks the enormous internal bandwidth of today's DRAM chips, piping the data directly into powerful vector units. Such a chip would be ideal for portable devices with multimedia interfaces and could become a product within five years. The Slater Perspective: Cache Strategies Key to Future CPUs..... 20 With nearly all of the x86 vendors now designing processors with the level-two cache on the CPU chip, the biggest changes in this year's processors will be in their cache designs. This technique is ideal for notebook systems as well as for low-cost PCs.

Patent Watch will return in the next issue.

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