Delivering the News First

MPR Digs Out Information Well Before It Is Officially Announced

Intel P9 Could Obsolete 286

SEPTEMBER, 1987—Intel has developed a microprocessor, internally called the P9, that has a 16-bit external data bus but uses the 386 architecture. The P9 would allow new 16-bit bus machines to have the benefits of the 386 architecture, while retaining the cost benefits of the 16-bit bus. Some large customers are said to have samples now, and public announcement is expected this fall. Intel declined to comment.

The P9 was announced in June 1988 as the 386SX, with essentially the features described in this article.

Secret 286 LOADALL Instruction

OCTOBER, 1987—We have learned that an undocumented 286 instruction, LOADALL, allows all of the processor's registers (including protected mode registers and hidden internal registers) to be loaded, even when operating in real mode. By changing the value of the descriptor cache base register, a program can select a segment beyond the lower 1 Mbyte.

Originally included by Intel for chip testing, Microsoft is now using this instruction in their RAM Drive program and in OS/2's compatibility box. While this instruction is probably appropriate only for use in operating systems and system-level utilities, it is important because it provides a set of capabilities that are not otherwise available in a 286-based system.

LOADALL was widely used but never documented.

Intel's P23 is Low-Cost 486

NOVEMBER 28, 1990—Intel is rumored to be developing a low-cost version of the 486, code-named P23, that does not include the floating-point unit. A P23 is essentially a fast 386 with on-chip cache, and if priced only modestly above the 386DX, it could promote a large-scale migration away from the 386DX.

The P23 was introduced in May 1991 as the 486SX, and it was a major factor in moving the market away from the 386.

P5 Details Surfacing

OCTOBER 2, 1991—The 586 can decode two instructions per clock for most opcodes and addressing modes. Most integer ALU operations and moves can be executed in pairs, provided there are no data dependencies. Compares and branches can be dispatched together, even if the branch depends on the result of the comparison. … The external data bus is 64 bits wide [and] will operate at a fraction of the processor clock rate, which is likely to be 66 MHz for the initial version.

Intel is promising system shipments in 1992, but it seems they have set a tight schedule for themselves; rumors are that tape-out recently slipped from late [1991] to the spring of '92. … Unless Intel is very lucky, volume production isn't likely until sometime in 1993.

The P5, as described here, became Pentium, which began volume production in May 1993.

AT&T Sampling Low Power Hobbit Processor

FEBRUARY 12, 1992—AT&T has begun sampling a new, low-power microprocessor, called "Hobbit," that is derived from its earlier "CRISP" design and is likely to be the primary RISC platform for GO Corp.'s PenPoint operating system. AT&T has been briefing prospective customers under non-disclosure but would not officially confirm the existence of the chip or comment on any plans to market it. Reliable sources have confirmed, however, that the chip has been sampling since early 1991 and will target portable, pen-based products.

This article goes on to extensively describe the Hobbit chip, which was announced in October 1992.

Exponential to Build PowerPC Processor

DECEMBER 26, 1994—The company declines to discuss its plans, but numerous rumors have circulated that the company is developing a high-speed PowerPC processor using BiCMOS technology. Lending credence to this report is the fact that one of the company's chief technologists is George Taylor, who led the ECL R6000 project at MIPS.

Exponential confirmed its PowerPC plans in December 1995 but never shipped the product.

Sega 64 Dumps 3Dfx for PowerVR

JULY 14, 1997—Despite earlier rumors to the contrary, Sega's next-generation game platform will use NEC's PowerVR graphics technology instead of 3Dfx's Voodoo, *Microprocessor Report* has learned. The switch comes at a bad time for 3Dfx, which held a successful IPO just days ago, partly on the strength of the promised Sega contract.

3Dfx's stock price dropped by 34% after this report was published, prompting the company to first deny and then acknowledge the accuracy of our piece. ♦