THE EDITOR'S VIEW

Can the Intel/HP Partnership Last?

Intel Partners Come and Go, But Intel Usually Benefits

The dissolution of Intel's partnership with VLSI Technology *(see **0811MSB.PDF**)* is yet another example of the risks entailed when two competitors try to work together. Intel has a history of starting, then abandoning such ventures: partnerships with AMD, IBM, Siemens, and now VLSI have gone south for various reasons. Will Intel's ballyhooed agreement with Hewlett-Packard suffer the same fate? Perhaps. But despite its difficulty in sustaining a partnership, Intel always seems to come out ahead in these deals.

After watching the suits and countersuits between Intel and AMD, it's easy to forget that 10 years ago, the two companies were partners. AMD second-sourced the 8086 and 80286 processors, helping to establish the IBM-compatible PC market. Once the PC market became a lucrative one, Intel refused to let AMD produce the 386 and proceeded to destroy the 286 market as quickly as it could. Intel went on to become the dominant microprocessor vendor in the world; AMD is only now recovering from the blow.

IBM's selection of Intel's 8088 began a relationship between the two companies that seemed like a happy marriage. In 1985, the two companies signed an agreement allowing IBM to manufacture its own x86 processors and design derivative products, so long as IBM did not sell these chips on the open market. This agreement helped Intel cope with a 486 capacity crunch by shifting some production to IBM; yet now that Intel has resolved its capacity problems, IBM buys all of its advanced DX4 and Pentium processors from Intel. Once again, Intel comes out ahead in the deal.

The Intel agreement also hamstrung IBM's efforts to enter the merchant CPU market: all of its internally developed x86 processor designs are "tainted" by Intel's proprietary information, preventing IBM from selling these chips except in systems or modules. IBM has had to turn to Cyrix to license marketable x86 cores.

Another area of cooperation between the two companies was the ill-fated Noyce Design Center, which was chartered to produce highly integrated 486 processors as part of a "10-year" technology agreement (see MPR 12/4/91, p. 18). At the time—two months after the Apple/IBM/Motorola PowerPC announcement—we speculated that Intel wanted to publicly demonstrate IBM's commitment to the x86 architecture. After the Noyce Center folded last year without producing any chips, it appears that publicity benefiting Intel was all that came out of this agreement. With IBM aggressively selling PowerPC and x86 processors, its relationship with Intel seems headed for divorce.

Also in the 1980s, Intel joined with Siemens to create a joint computer venture dubbed BiiN. When the two companies pulled the plug just 16 months after its announcement (see MPR 10/89, p. 22), Siemens was left with hundreds of millions of dollars in losses; Intel was left with the i960 architecture, which has become the best-selling RISC processor family ever.

It's too early to say exactly what went wrong with the VLSI partnership or how things will turn out. Intel gained access to VLSI's system logic in exchange for the company's underpowered 386 CPU core, which Intel wouldn't even let VLSI manufacture. The deal dissolved before VLSI could access the mainstream 486 CPU. The rumor is that Intel, having examined VLSI's portfolio, is now working on an in-house project that will compete with VLSI's products.

Since the announcement of the Intel/HP agreement to develop a new CPU architecture that is compatible with both x86 and PA-RISC *(see **080801.PDF**)*, there has been some skepticism as to whether the agreement can work, but there are some positive signs. Like Intel's original deal with IBM, it basically gives HP the right to build and develop derivatives of Intel processors. The IBM relationship, Intel's longest to date, foundered when Big Blue wanted to get into the merchant microprocessor business; HP appears to have no interest in selling CPU chips.

On the other hand, it wouldn't be surprising if Intel takes a good look at HP's VLIW technology and then bails out of the partnership. This act wouldn't necessarily jeopardize Intel's move to a new architecture; the company has the resources to pursue such an effort on its own. Intel would prefer not to lose HP as a customer, but if it perceives an advantage in moving forward on its own (such as dropping the burden of PA-RISC compatibility), the partnership could be jeopardized.

In the computer industry, partnerships and joint ventures have had a poor track record, no matter which companies are involved. But Intel's history has been particularly bad in this regard, as the company has consistently put its own best interests first. That has been good for the company and good for the stockholders—but