Intel's Coppermine Hits Glitch

It's good news/bad news time: Intel has disclosed that its 0.18-micron Pentium III, code-named Coppermine, will be delayed for two months. The good news is that improved yield on the 0.25-micron process will allow Intel to launch the 600-MHz Pentium III on schedule, using that process instead. The biggest impact will be on makers of notebook PCs, who were hoping for a big ramp of Mobile Coppermine in the fourth quarter. Although Intel still plans to ship the mobile part at speeds of up to 500 MHz, faster versions will be delayed. The 0.25-micron Pentium III is no help in the mobile segment, due to its higher power dissipation.

We expect the Mobile Coppermine parts to appear on schedule in September, but the desktop versions will not ship until November. Intel would not comment on the source of the problem but denied any problems in the 0.18-micron process, in production today for Mobile Pentium II (Dixon). This implies the problem is in the Coppermine design.

Sources indicate the part, which is based on the current Pentium III core, is fully functional but is not achieving speed yields above 550 MHz. Thus, the mobile version, which operates at a lower clock speed, can ship in September, but the desktop version requires another revision before it will achieve the desired clock speeds. We expect the desktop Coppermine to ship at 667 MHz in November, one speed grade faster than the 600-MHz 0.25-micron Pentium III due to appear in September.

Intel reports the Camino (820) chip set remains on track for a September launch. This chip set supports a 133-MHz bus, so we expect Intel to offer a version of the 600-MHz Pentium III that operates with the 133-MHz bus as well as a version that uses the current 100-MHz bus. The faster bus will provide a small performance boost. Because the bus multiplier is hard-coded in the processor, Intel must offer two versions of the chip, even though they have the same CPU speed.

From an end-user perspective, this change will have little effect, as the 0.25-micron pull-in covers the 0.18-micron slip. Desktop users will be able to buy the 600-MHz and the 667-MHz Pentium III, as well as the Camino chip set, on the same schedule as before. Notebook users will still get Mobile Coppermine as planned, but they will miss out on faster versions until next year. We estimate the revenue impact of this delay at a barely perceivable $100 million.

The delay continues a series of minor execution problems at Intel, including its delayed Camino launch (see MPR 3/29/99, p. 14) and its failure to tape out Merced on schedule. (As of 6/30, the first IA-64 chip had yet to reach this milestone.) The Coppermine problem prevents Intel from shipping a 0.18-micron desktop part until November, which could cause problems if AMD gets aggressive with its new K7. Intel had best avoid any more serious glitches. —*L.G.*

Intel Issues P6-Bus License to Acer Labs

Acer Labs (ALi) has become the newest member of the P6-bus club, though the total membership in that small fraternity remains constant due to the recent expulsion of Via Technologies. ALi will pay Intel an unspecified license fee and give Intel access to ALi intellectual property.

According to Intel, the new license allows ALi to make chip sets for all of Intel's current P6-bus processors. Neither company, however, has said whether the license allows ALi to build chip sets for CPUs with a 133-MHz frontside bus, a point that became the central issue in the Intel/Via dispute. We suspect the license is limited to 66-MHz and 100-MHz bus speeds, leaving Intel in control of the high end of the chip-set market for the next year, at least. —*P.N.G.*

S3 to Acquire Diamond Multimedia

S3 recently announced it intends to acquire Diamond Multimedia, a major customer of S3 graphics chips for Diamond's add-in-board business. Diamond, which also makes the Rio portable MP3 player and various other products, boasts almost three times S3's revenues. The merger gives S3 a much larger revenue stream and gives Diamond better access to S3's silicon design expertise.

Later this year, S3 plans to introduce a highly integrated core-logic chip set for low-cost PCs and Internet appliances. Diamond's sales channels and brand identity will help S3 with this plan, and it will allow S3 to diversify into consumer electronics and other non-PC markets.

The deal conflicts with existing relationships at both companies. S3 says it is willing to continue working with board makers in market segments not covered by Diamond's existing product line. S3 customer Number Nine was quick to announce that business would "continue as usual between the two companies." On the other hand, Creative Labs, which competes directly with Diamond, announced plans to discontinue its S3-based products.

S3 also says that Diamond will continue to offer cards with Nvidia's Riva TNT2 graphics chip, since the TNT2 "occupies a completely different market segment than S3's Savage4." We expect the Diamond-Nvidia relationship to be phased out within a year, however.

The deal continues an established trend toward greater vertical integration of graphics-chip and board makers. ATI's integrated business model helped it become the most powerful player in the PC graphics market, and business-graphics powerhouse Matrox takes the same approach. In hopes of competing more effectively with these companies, 3Dfx recently completed its merger with STB (see MPR 1/25/99, p. 14). Of the top five graphics-chip makers, only Nvidia remains unaffiliated with a board company; of the top five board makers, only Creative Labs lacks an in-house graphics-chip supplier. Can another deal be far off? —*P.N.G.* M