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INTEL DELAYS ITANIUM

Intel has announced another delay for Itanium, the first IA-64 processor. Intel now expects to start shipping Itanium (for revenue; the company has already shipped thousands of sample chips in development systems) in 4Q00. The company said it plans to spend the time performing additional testing on the new chip. Servers and workstations based on Itanium are now not expected to ship until 1H01, some two years later than originally scheduled. *–P.G.*

INTEL INTROS 1.13GHZ P3

Intel has introduced a 1.13GHz version of its Pentium III processor. The new chip, which will initially have only limited availability, will sell for $990 each in 1,000-unit quantities. According to published reports, AMD's 1.1GHz Athlon will arrive later this month. Intel's new chip is likely to be a few percent faster on most applications, but we expect the new Athlon to be more readily available. *–P.G.*

APPLE RELEASES DUAL-PROCESSOR G4

At the recent Macworld Expo in New York City, Apple CEO Steven Jobs introduced a new line of G4 PowerMac PCs that features two models equipped with dual "Velocity Engine" processors that are theoretically capable of processing up to seven billion floating-point operations per second. Using six selected Intel benchmarks for comparison purposes (*http://developer.intel.com/vtune/PERFLIBST/spl/splspec.htm*), Apple's marketing department claims that its 500MHz G4 is more than twice as fast as an 800MHz Pentium III PC.

The response from analysts so far has been underwhelming. (See *MPR 6/26/00-01*, "Benchmarks are Bunk" for details on how marketers misuse processor benchmarks to gloss over product shortcomings.) Apple asserts that when running selected applications, such as Adobe PhotoShop, its 500MHz G4 PowerMac will process data as fast as the 2GHz Pentium III that Intel plans to release in 2001. However, the G4's second processor is at present accessible to only a few application software programs. The vast majority of applications for the PowerMac will be unable to access the G4's second processor until Apple introduces its long-delayed OS X in 1Q00. For more information: *www.apple.com/powermac/processor.html*. *–M.L.*

MICROPROCESSOR AND FLASH MEMORY SALES FUEL AMD REVENUE SURGE

AMD has reported record sales of more than $1.17 billion, a record operating income just shy of $250 million, and a record net income exceeding $207 million for 2Q00. The chart-breaking performance prompted AMD's board of directors to authorize a two-for-one stock split on July 19 that will be effected as a stock dividend of one share of common stock for each share of AMD common stock outstanding.

Sales of the company's PC processor and flash memory products have fueled AMD's near-doubling of sales over those of 2Q99. During 2Q00, AMD introduced two enhanced seventh-generation PC processors. Formerly code-named "Thunderbird," the new Athlon processor (see *MPR 6/26/00-02*, "Duron Takes on Celeron") features 256K of on-die L2 cache memory and is targeted at the performance sector of the PC market. AMD also commenced shipments of its Duron processor (formerly code-named "Spitfire"), which features 64K of on-board L2 cache memory. AMD's new Dresden Fab 30 facility, which has moved to production status, is expected to double the company's unit shipments of processors in each of the next two quarters—to 3.6 million units in 3Q00 and to 7.2 million units in 4Q00 . Dresden Fab 30 employs AMD's most advanced process technology: 0.18 micron with copper interconnects.

In the second quarter of this year, AMD also introduced two advanced flash memory products for high-end cellular telephones: 32- and 64Mb devices with simultaneous read/write architecture and 1.8V operation for extended battery life. AMD believes these features to be critical in adding to cellular telephones' new capabilities, such as

Internet connectivity, video streaming, and the functionality of handheld information appliances. For more information: www.amd.com. –M.L.

FASL Boosts Megafab Production

During 2Q00, Fujitsu AMD Semiconductor Limited (FASL), a joint venture of AMD and Fujitsu, made initial shipments from its new production facility in Iwate, Japan. FASL has also qualified production in additional facilities located in Aizu-Wakamatsu, Japan, and Gresham, Oregon.

FASL recently broke ground for construction of a third fab for flash memory production at Aizu-Wakamatsu. Construction of the facility will begin immediately, and work will continue around the clock to meet a planned completion of the clean room by December of this year. Initial production at this new facility, designated JV3, is planned to commence in 2H01.

JV3 will encompass more than 100,000 square feet of clean room space and be capable of producing 7,500 eight-inch wafers per week when fully equipped and operating at peak capacity. The new facility will also incorporate a shell for future expansion that will eventually include a 12-inch (300-millimeter) facility for flash memory products. The estimated cost of the JV3 facility is approximately $1.5 billion. For more information: www.amd.com. –M.L.

3Dlabs Launches Graphics Program

3Dlabs has launched an Embedded Graphics Program in collaboration with real-time graphics supplier Seaweed Systems to promote and support the use of its graphics processors in a growing range of embedded and non-PC applications. Seaweed is shipping off-the-shelf real-time X Window and OpenGL drivers, fully accelerated on a wide range of 3Dlabs graphics silicon that supports Wind River's VxWorks real-time operating system (RTOS).

Customers working to integrate advanced 2D and 3D graphics into embedded applications can now enroll in 3Dlabs' Embedded Graphics Program for an annual support fee. Membership in the program ensures access to chip design documentation, detailed hardware design assistance, hardware design reviews, and ongoing software support. 3Dlabs has expanded its specialist technical support staff to support this new program, and each member company is assigned to a member of the support team for consistent long-term liaison. Companies interested in joining the Embedded Graphics Program should email John Rose mailto:john.rose@3dlabs.com. –M.L.

American Megatrends and Iwill to Offer IDE RAID Embedded Solutions

Storage and computing company American Megatrends (AMI) has announced that motherboard manufacturer Iwill Corporation will deliver Intel Pentium III and AMD Athlon platform motherboards with embedded IDE RAID-enabled software for high-end desktops, workstations, and entry-level servers. IDE RAID includes both data striping (RAID 0) and mirroring (RAID 1), which the company says provides users with better application performance whenever a file is saved or retrieved and virtually eliminates downtime in case a drive crashes. For more information: www.ami.com. –M.L.

Acer Labs Introduces New DDR Core-Logic Chip Sets

Acer Laboratories Inc. (ALi) has announced the release of new core-logic chip sets for Athlon, Duron, Pentium, and Celeron processors. The AliMagik 1 chip set has been designed for desktop PCs using Athlon and Duron processors, while the MobileMAGiK 1 chip set has been designed for portable systems using the Mobile AMD Athlon processor. The Aladdin Pro 5 chip sets for desktop systems and the Aladdin Pro 5M chip sets for mobile systems are designed for PCs using all of Intel's Slot 1/Socket 370 family CPUs, including Pentium III, Pentium II, and Celeron. In 20,000-unit quantities, the four chip sets are priced as follows: AliMagik 1, $31; MobileMagik 1, $36; Aladdin Pro 5, $33; and Aladdin Pro 5M, $38. All four chip sets are sampling now and are expected to be in volume production by 4Q00. For more information: www.ali.com.tw. –M.L.

3Dlabs Wildcat Division Announces New Chip Set

The Wildcat Division of 3Dlabs (formerly Intense3D) has announced development of a new geometry and rasterization chip set that will more than double the performance of the company's previous high-end professional graphics accelerator—the Wildcat 4110 (see MPR 9/13/99-04, "New Chips, New Ideas at Siggraph '99"). Equipped with a dual-pipeline architecture, the new Wildcat II accelerators will feature 3D volumetric texturing pixel effects and full scene-based antialiasing. For more information: www.3dlabs.com/. –M.L.

Scientists Announce Breakthrough 3D-Compression Algorithm

Computer scientists from Bell Labs and the California Institute of Technology have developed a new digital geometry compression algorithm that the creators say will make it practical for the first time to transmit detailed 3D data to video-game producers and animators over the Internet. Digital geometric data, which is typically acquired by 3D laser scanning, represents objects by using dense meshes of millions or even billions of triangles. The new compression algorithm dramatically reduces the number of bits required to store and transmit huge and complex data sets, which do not yield to the same DCT-based processing techniques that digital audio, image, and video applications using MPEG-2 currently employ.

The new approach uses specialized "wavelets"—a mathematical wavelength-transformation technique that is

complementary to Fourier transforms. Producers of animated films and video games are expected to be among the early adopters of wavelet-based geometry compression. The new approach is also suitable for integration with the new MPEG-4 compression standard (see *MPR 3/29/99-05*, "MPEG-4: Way Beyond Video"). *–M.L.*

Appian Promotes New Graphics Chip

Appian Graphics has developed a new graphics chip for the multidisplay professional market. Based around the Permedia core from 3Dlabs (see *MPR 8/3/98-01*, "3D Vendors Aim High"), the new Appian AGX is a dual-output graphics chip that offers resolution support for 3,200 x 1,200 x 32bpp at 85Hz (1,600 x 1,200 per monitor). The product features two 24-bit digital outputs, PCI or AGP support, 2D and 3D acceleration, and multifunction device support under Windows 2000. With dual independent RAMDACs and support for up to 32MB SDRAM or SGRAM on a 128-bit datapath, Appian AGX also supports up to 1,600 x 1,200 x 32bpp on two monitors, as well as two 24-bit digital outputs.

Appian AGX reportedly benefits from the latest Permedia core features, including DVD playback (motion compensation, color space conversion, and scaling); single-pass multitexturing; full-scene antialiasing; bump mapping; bilinear, trilinear, and anisotropic filtering; and synchronization for multiple screens to eliminate display interference. Appian AGX will be used in Appian's next generation of two- and four-port graphics boards, to be announced and begin shipping in 3Q00. The Appian AGX chip is also available to OEMs and other board manufacturers. For more information: *www.appian.com*. *–M.L*