AMD Delivers First Stream Processor with Double Precision Floating Point Technology

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AMD today announced the AMD FireStream 9170 Stream Processor and an accompanying Software Development Kit (SDK) designed to harness the massive parallel processing power of the graphics processing unit (GPU).

AMD leveraged its unique collective expertise in both GPUs and CPUs to deliver the first integrated hardware and software development solution that meets the needs of the demanding high-performance computing (HPC) market. AMD plans to deliver the FireStream 9170 and supporting SDK to market in the first quarter of 2008.

With this launch AMD expects to achieve another important milestone on the path to Accelerated Computing by delivering the first in a series of next-generation heterogeneous compute architectures.

"With a broad range of customer engagements underway, notably customers in the oil and gas, financial and engineering analysis industries, AMD is delivering on its vision of Accelerated Computing with breakthrough benefits for our enterprise customers," said Rick Bergman, Senior Vice President and General Manager, Graphics Products, AMD. "Leveraging the immense graphics processing capabilities acquired from ATI and the HPC domain expertise of AMD, we are developing strong relationships with system vendors and the supporting technology eco-system to deliver processing innovation through an open platforms approach."

The AMD FireStream 9170 will be the world's first Stream GPU with double-precision floating point technology tailored for scientific and engineering calculations. Competitively priced at an MSRP of $1999 USD, it features up to 500 GFLOPS1 of compute power, rivalling many of today's supercomputers, and providing dramatic acceleration for critical algorithms. This second generation Stream Processor is built with 55 nm process technology and consumes less than 1502 watts of power – delivering an exceptional performance per watt. In addition, the reduced heat dissipation allows it to function in dense design configurations. The FireStream 9170 is a single card solution with two GB of onboard GDDR3 memory to compute large datasets without CPU traffic. The asynchronous direct memory access (DMA) ensures data can flow freely without interrupting the stream processor or CPU.

"GPUs have long been known for their immense parallel processing performance but many challenges still remain in driving widespread customer adoption for general purpose compute," said Jon Peddie, President, Jon Peddie Research. "Leveraging its unique capabilities in high-performance CPU and GPU technologies, AMD is well positioned to drive an integrated hardware and software proposition that can deliver the best of both processing worlds to its HPC customers."

The AMD FireStream SDK is designed to deliver the tools developers need to create and optimize applications on AMD Stream processors. Built using an open platforms approach, the AMD FireStream SDK allows developers to access key Application Programming Interfaces (APIs) and specifications, enabling performance tuning at the lowest level and development of third party tools. Building on AMD's Close to the Metal (CTM) interface introduced in 2006, the Compute Abstraction Layer (CAL) provides low-level access to the GPU for development and performance tuning along with forward compatibility to future GPUs. For high-level development, AMD is announcing Brook+, a tool providing C extensions for stream computing based on the Brook project

from Stanford University. In addition, AMD also plans to support the AMD Core Math Library (ACML) to provide GPU-accelerated math functions, and the COBRA video library accelerates video transcode. Also available are third-party tools from top industry partners including RapidMind and Microsoft.

Source: AMD