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AMD Enables Server APU Software to Reimagine the Server

Showcases New Generation of Development Tools That Will Help Servers Adapt to Modern Data Center Workloads at APU13 Developer Summit

SUNNYVALE, CA -- (Marketwired) -- 11/11/13 -- AMD (NYSE: AMD) today announced it is enabling its accelerated processing units (APU) for next-generation servers through important advancements in software tools developed by AMD and in collaboration with technology partners and the open source community. In his keynote address at APU13, AMD Corporate Fellow Phil Rogers highlighted the significant progress AMD has made in both developing software internally and empowering others to develop software to take advantage of the capabilities of AMD APU technology, which combines industry leading AMD Radeon™ graphics processing engines with x86 computational processing on a single chip.

"Servers must be efficient, scalable and adaptable to meet the compute characteristics of new and changing workloads. Software applications that leverage server APUs are designed to drive highly efficient, low-power, dense server solutions optimized for highly parallel and multimedia workloads," said Suresh Gopalakrishnan, corporate vice president and general manager of the Server Business Unit, AMD. "We have evolved our processor roadmap to support this opportunity, and now we are showcasing how the APU software ecosystem is gaining momentum and what developers can do to participate."

With the realization that server APUs based on Heterogeneous System Architecture (HSA) are coming to market soon, AMD has developed tools for software developers to take advantage of the benefits that HSA provides. HSA enables the CPU and GPU to work in harmony on a single piece of silicon, seamlessly moving the right tasks to the best-suited processing element with no data transfer penalties and makes more memory available to the GPU so that complex processing tasks can fit in a single node.

"Combining AMD's upcoming HSA compliant APUs with new east-west fabric architectures, like AMD's Freedom Fabric and HP's Moonshot, is a potential game changer for many server-side HPC and big data analytics workloads," said Paul Teich, CTO and senior analyst at Moor Insights & Strategy, a leading high-tech analyst firm.

AMD is collaborating with its technology partners and the open source community to provide developers with tools that enable them to build server applications that utilize both CPU and GPU compute capabilities available in its revolutionary HSA based server APUs. Tools highlighted today at APU13 include:

- *Project Sumatra* - a joint Oracle and AMD project done in open source that enables developers to code in Java and take advantage of GPU compute;
- *GCC/HSA Project* - an AMD and SUSE project to enable the popular open source Linux compiler, GCC, to support HSA, targeting OpenMP APIs;

- *PGI Accelerator™ Compiler* - a beta version is available that enables developers to add OpenACC directives that support AMD APUs and discrete GPUs to Windows and Linux Fortran, C and C++ programs;
- *clMath* - AMD OpenCL math libraries that were contributed to open source in August enable developers to accelerate common scientific and engineering computations on AMD APUs and discrete GPUs;
- *ArrayFire 2.0 for OpenCL* - a fast math library by AccelerEyes that utilizes clMath for GPU computing and offers an easy-to-use API for Windows or Linux developers;
- *CodeXL 1.3* - AMD's comprehensive developer tool suite for Windows and Linux that features remote debugging and profiling to enable server application developers.

Several AMD technology partners who are enabling the server APU ecosystem are participating at APU13, which continues through Wednesday, Nov. 13. The APU13 agenda includes a keynote by Nandini Ramani, Oracle, who will overview the Project Sumatra and the benefits that GPU computing brings to Java. In addition, sessions will be hosted by Microsoft, highlighting C++ AMP and RemoteFX technologies; AccelerEyes, showcasing the use of libraries to enable heterogeneous computing; and HP, providing an overview of its HP Moonshot dense server environment for hosted desktop. APU13 also features sessions that highlight how server APUs can be used to optimize a variety of data center workloads.

Today, AMD also announced a new unified SDK, tools and accelerated libraries for heterogeneous computing developers.

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Contact:
Tara Sims
AMD Public Relations
(415) 713-5986
tara.sims@amd.com

Marco Pena
Edelman for AMD
(650) 762-2861
marco.pena@edelman.com

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