November 20, 2014

AMD FirePro Awarded Top Spot on the Green500 List

Most Energy Efficient Supercomputer in the World Is Powered by AMD FirePro(TM) S9150 Server GPUs

NEW ORLEANS, LA -- (Marketwired) -- 11/20/14 -- AMD (NYSE: AMD) powers the L-CSC cluster at the GSI research facility achieving the number one position for supercomputers on the latest Green500™ List, a ranking of the 500 most energy-efficient supercomputers in the world, with recognition as the world's leader in energy-efficient high performance GPU computing (HPL). The L-CSC cluster is installed at the GSI Helmholtzzentrum für Schwerionenforschung GmbH research facility in Darmstadt, Germany, and is powered by AMD FirePro™ S9150 server GPUs.

"Our goal in Computing and Graphics at AMD is to deliver world-class products to our customers every time," said John Byrne, senior vice president and general manager, computing and graphics business group, AMD. "As proven with the Green500 List ranking, our AMD FirePro lineup of professional graphics solutions delivers on this goal time and again -- absolute performance leadership with outstanding energy efficiency that enables incredible solutions like the GSI L-CSC cluster."

The GSI L-CSC cluster with 600 AMD FirePro S9150 server GPUs outperforms all other ranked clusters. With 5.27 GFLOPS per watt, the GSI L-CSC cluster using AMD FirePro S9150 server GPUs delivers 20 percent better efficiency than the top ranked cluster on the June 2014 Green500 List. The GSI L-CSC cluster enables Lattice Quantum Chromo Dynamics (Lattice QCD) computational research using one of the fastest OpenCL™ implementations for research applications in the world.

"AMD is proud to be recognized as the world's leader for energy efficient GPU computing by reaching the top spot on the Green500 List," said David Cummings, senior director and general manager, professional graphics, AMD. "This unique position can only be achieved through sustained innovation at the leading edge of the computing world and processor and system design. AMD offers HPC GPU compute customers a full AMD FirePro S-series line up from entry-level to ultra-high-end boards supporting a feature-rich software ecosystem."

"Supercomputers are inevitable in today's research. The scientific challenges require computers as fast as possible, but we have to keep power consumption and costs in mind, in order to use our available resources as well as possible," said Professor Dr. Volker Lindenstruth, professor at Goethe University of Frankfurt, head of IT department of GSI, and chairman of Frankfurt Institute for Advanced Studies. "We're excited to reach the number one position in the Green500 List with the new L-CSC supercomputer and we thank AMD and ASUS for the excellent cooperation. The L-CSC supercomputer at the GSI research facility featuring ASUS ESC4000 G2S servers and AMD FirePro GPUs provides the huge compute capabilities required for our research."

"ASUS is proud to collaborate with AMD in the GSI Research supercomputer recognition for the top spot on the Green500 List," said Tom Lin, ASUS server business unit, general manager. "ASUS is passionate about the HPC field, in the same way that AMD is dedicated to delivering extreme-performance GPU solutions."

As the only single GPU-based solution to deliver two teraflops DGEMM sustained double precision performance, AMD has been able to achieve the worldwide top ranking in the Green500 List. With industry-leading performance/watt[1], industry-leading memory configuration[2], and support for the latest OpenCL™ standards[3], the AMD FirePro S9150 Server GPU is unmatched in compute performance.

The AMD FirePro S9150 server GPU is the fastest and most power-efficient single GPU board available today. The family of AMD FirePro S-series products are designed to reliably support large multi-GPU clusters to address large computational projects. The recognition on the Green500 List distinguishes AMD Professional GPUs for pushing the boundaries of innovation in energy efficiency and performance per-FLOP, including enhancing overall system performance and efficiency through AMD's massively parallel GPU processing.

In addition to claiming the top spot on the Green500 List, the AMD Opteron™ server CPU achieved the number two spot on the latest TOP500 List, a ranking of the 500 most powerful supercomputers in the world.

AMD exhibited with AMD FirePro S9150 and AMD server technologies at SC '14 in New Orleans at the Ernest Memorial Convention Center booth #839 from November 17 to 20.

Supporting Resources

- Learn more about AMD's leadership in HPC
- Learn more about AMD FirePro and HPC
- Learn more about AMD FirePro S9150
- Learn more about AMD FirePro and the GSI L-CSC cluster
- Read about AMD's latest research grant from the U.S. Department of Energy
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1. AMD FirePro™ S9150 max power is 235W and delivers up to 2.53 TFLOPS peak double and up to 5.07 peak single precision floating point performance. Nvidia's highest performing server cards in the market as of June 2014 are the Tesla K40, max power of 235W, with up

to 1.43 TFLOPS peak double and up to 4.29 peak single, and the K10, max power 225W, with up to 4.58 TFLOPS peak single and 190 GFLOPS peak double precision. Visit http://www.nvidia.com/object/tesla-servers.html for Nvidia product specs. FP-97

2. AMD FirePro™ S9150 features 16GB GDDR5 memory, and Nvidia's highest performance server GPU in the market as of June 2014 is the Tesla K40 with 12GB GDDR5 memory. Visit http://www.nvidia.com/object/tesla-servers.html for Nvidia product specs. FP-98

3. OpenCL™ 1.2 conformance expected for S9150 and S9050. AMD plans to release OpenCL™ 2.0 drivers for enabled AMD FirePro S9150 server GPUs in Q4 2014; conformance testing is planned at that time. Previous generation AMD FirePro products may not support OpenCL™ 2.0.

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Source: Advanced Micro Devices