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AMD's SeaMicro Servers Accelerate Leading-Edge Biomolecular Research to Provide High-Performance Computing (HPC) at the University of Munich

Enables World's First 3-D Structural View of the Human Ribosome

LEIPZIG, GERMANY -- (Marketwired) -- 06/13/13 -- AMD (NYSE: AMD) today announced that the Gene Center of the University of Munich (Ludwig Maximilians University, or LMU) has accelerated its research capabilities using AMD's SeaMicro servers to gain a computational edge for its groundbreaking discoveries. AMD's SeaMicro servers aided researchers in creating the world's first 3-D image of the human ribosome by combining more than 800,000 images. The findings advance the understanding of how bacteria ribosomes can be broken down without harming human ribosomes, similar to the operation of some antibiotics. This could lead to the discovery of new drugs that are more effective and personalized to a person's genetic profile.

The Gene Center -- a leading life sciences research center in Munich, Germany -- conducts research that requires intensive computational capability which up until now has traditionally been limited to custom-built, highly expensive high-performance computing (HPC) clusters. AMD's SeaMicro server with Freedom™ Fabric, provides 1.28 terabits-per-second of bandwidth to scale computing performance without the need for expensive, external InfiniBand interconnections or 10 GbE networking.

"High-performance computing is critical to the cutting-edge research and groundbreaking discoveries of the LMU Gene Center," said Ronald Beckmann, professor at the Gene Center at LMU. "AMD's SeaMicro servers provide a computational edge by delivering supercomputer-like performance in the industry's smallest form factor. The server really is a mini-supercomputer in a box, and it is accelerating our research and allowing us to do analysis and break new ground in the field of structural biochemistry."

AMD's SeaMicro servers are simple and easy to deploy due to their dense form factor and simple management interface. They fit into standard server rooms, like those used in the Gene Center, compared to HPC clusters or supercomputers that require custom build-outs for facilities and cooling. The compact 10 rack unit chassis (17.5 inches, 44.5 centimeters) creates a solution that is essentially a mini-supercomputer in a box.

The Gene Center selected SeaMicro servers for their power efficiency, integration and supercomputer-like performance at a fraction of the cost of alternative solutions. A single person deployed the system, which contains 128 servers and 512 computing cores, in just two days. The deployment, featured in an AMD case study, has run flawlessly and improved the Gene Center's other bioinformatics services such as protein homology searches, which help to understand unknown proteins.

"For fields such as genetic research, computing is often a constraint due to the cost of the systems traditionally used. We are breaking that mold to make high-performance computing more widely available," said Dhiraj Mallick, corporate vice president and general manager, Data Center Server Solutions, AMD. "The potential benefits of the research at the Gene Center are tremendous since they are essentially unlocking the secrets of how life works at the molecular level."

The groundbreaking work at the Gene Center has the potential to make medications safer and more effective. Some newer drugs that break down the bacterial ribosome are only allowed for adults because they may not be safe for children. The Gene Center's research could help bring these medications to a wider population. The 3-D images provide insights into how a protein is built, which could ultimately lead to the development of new, more effective medications.

AMD's SeaMicro SM15000™ system is the highest density, most energy-efficient server in the market. In 10 rack units, it links 512 compute cores, 160 gigabits of I/O networking and more than five petabytes of storage with the 1.28 terabit Freedom Fabric. The SM15000 server eliminates top-of-rack switches, terminal servers, hundreds of cables and thousands of unnecessary components for a more efficient and simple operational environment.

AMD's SeaMicro server product family currently supports the next generation AMD Opteron™ ("Piledriver") processor as well as Intel's® Xeon® E3-1260L ("Sandy Bridge"), E3-1265Lv2 ("Ivy Bridge") and Intel® Atom™ N570 processors. The SeaMicro SM15000 also supports the Freedom Fabric Storage products, enabling a single system to connect with more than five petabytes of storage capacity in two racks. This approach delivers the benefits of expensive and complex solutions, such as network-attached storage (NAS) and storage-area networking (SAN), with the simplicity and low cost of direct attached storage.

Representatives from AMD will be at the International Supercomputing Conference (ISC '13) in Leipzig, Germany at the Megware booth #644 June 17-19 to provide more details on its SeaMicro system.

About AMD
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