Eurotech Combines Applied Micro 64-bit ARM CPUs and NVIDIA GPU Accelerators for HPC

Eurotech, a provider of embedded and supercomputing technologies, has teamed up with AppliedMicro Circuits Corporation and NVIDIA to develop a new, original high performance computing (HPC) system architecture that combines extreme density and best-in-class energy efficiency. The new architecture is based on an innovative highly modular and scalable packaging concept.

Eurotech, which has years of significant experience in designing and manufacturing original HPC systems, has successfully developed an HPC systems architecture that optimizes the benefits of greater density, as well as the and energy efficiency of ARM processors and high-performance GPU accelerators.

For this development, Eurotech partnered with Applied Micro, a California-based data center semiconductor company, utilizing X-Gene, the world’s first ARMv8 64-bit-based Server on a Chip Solution. Eurotech has paired X-Gene with NVIDIA Tesla GPU accelerators to efficiently deliver high performance for demanding HPC workloads.

“Today’s announcement validates the performance of X-Gene’s robust, 64-bit sever-class processor cores and highlights the power efficiency and density enabled by X-Gene’s wide memory bandwidth and high speed I/O integrated onto a single piece of silicon,” said Gaurav Singh, Vice President of Technology Strategy at Applied Micro. “We are excited to collaborate with Eurotech and NVIDIA to commercialize this innovative, high performance platform.”

“GPUs provide the processing power and development ecosystem that will enable Eurotech and other ARM solution providers to deliver a new class of innovative computing solutions for HPC workloads,” said Ian Buck, vice president of Accelerated Computing at NVIDIA. “The availability of GPU-accelerated 64-bit ARM systems is the year’s most important development in HPC.”

Systems leveraging the new architecture can have a novel form factor that enables an innovative way of packaging electronics and water cooling, leaving no space unutilized and boasting an impressive computational density, with a peak performance of 1 PFlop/s in one square meter.

The new system exploits the latest generation of the Eurotech’s patented direct hot liquid cooling, which allows “free cooling” even in the warmest climates on earth and features the best PUE in the industry.

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