ANSYS Unveils GPU Computing for Accelerated Engineering Simulations

Source: Kailash S Bisht
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BANGALORE, India -- ANSYS Unveils GPU Computing for Accelerated Engineering Simulations

NVIDIA Tesla GPUs Cut Turnaround Times for Complex Analysis in Half

BANGALORE – September 28, 2010 – A new HPC solution developed by ANSYS (NASDAQ: ANSS) leverages the power of graphics processing units (GPUs) to dramatically reduce overall engineering simulation processing time — by as much as half. Exploiting HPC technology in this way enables customers to obtain enhanced insight into product behavior faster than ever before.

Performance benchmarks demonstrate that using the latest NVIDIA Tesla GPUs in conjunction with a quad-core processor can cut overall turnaround time in half on typical workloads, when compared to running solely on the quad-core processor. GPUs contain hundreds of cores and high potential for computational throughput, which can be leveraged to deliver significant speedups. A leader in both engineering simulation and HPC, ANSYS has worked with NVIDIA to develop solutions applicable to mechanical and electrical simulation, available today in a preview release. The full ANSYS accelerator capability is slated for general availability later in 2010.

Tesla GPUs are based on CUDA, NVIDIA’s computing architecture that enables its GPUs to be programmed using industry-standard languages, opening up massive parallel processing power to a broad range of computing applications beyond traditional graphics. With power-efficient cores and increasingly fast access to memory, GPUs are well suited to accelerate many ANSYS simulations. Benchmarking of the new ANSYS® Mechanical™ implementation has shown that double precision computations of a typical workload can be performed on a GPU in around half the normal turnaround time. This technology milestone was demonstrated on the NVIDIA Tesla platform with a variety of customer-relevant models.

“This initial development for GPU computing demonstrates our focus on evolving ANSYS software to take advantage of important technology trends in high-performance computing. HPC is a rapidly changing technology arena and also a key enabler of Simulation Driven Product Development™,” said Dipankar Choudhury, vice president of corporate product strategy and planning at ANSYS. “We work to achieve optimized software performance, across the full spectrum of HPC technologies, so that our customers get maximum value from their investment in HPC. Here, our technical collaboration with NVIDIA has resulted in a significant benefit for our mutual customers.”

“NVIDIA Tesla GPUs have quickly gained a reputation in the HPC industry for delivering dramatic changes to workflow, resulting in significantly reduced computational time across complex problems,” said Andrew Cresci, general manager of vertical solutions at NVIDIA. “The combined processing power of Tesla GPUs and ANSYS tools accelerates time to insight and helps ANSYS customers deliver innovative products that can consistently exceed market expectations.”

The new ANSYS capability to use GPU acceleration is being showcased this week at the NVIDIA GPU Technology Conference in San Jose, Calif.

About ANSYS, Inc.
ANSYS, Inc., founded in 1970, develops and globally markets engineering simulation software and technologies widely used by engineers, designers, researchers and students across a broad spectrum of industries and academia. The company focuses on the development of open and flexible solutions that enable users to analyze designs directly on the desktop, providing a common platform for fast, efficient and cost-conscious product development, from design concept to final-stage testing and validation. The company and its global network of channel partners provide sales, support and training for customers. Headquartered in Canonsburg, Pa., U.S.A., with more than 60 strategic sales locations throughout the world, ANSYS, Inc. and its subsidiaries employ more than 1,600 people and distribute ANSYS products through a network of channel partners in 40+ countries. Visit www.ansys.com for more information.

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