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Intel Architecture Driving Future of Supercomputing

NEWS HIGHLIGHTS

- 402 systems on Top500 list feature Intel processors, including three in top 10.
- Intel announces that new HPC-optimized Nehalem-EX processor will be available in 2010.
- Beta program for Intel's Ct technology will be available by end of 2009.

PORTLAND, Ore.--(BUSINESS WIRE)-- More than four out of every five supercomputers on the TOP500 list are powered by Intel(R) processors. Intel Corporation today announced new technologies that will better equip scientists, researchers and engineers with the computing power to speed up science and engineering projects such as the development of new drugs and climate change research.

In the first half of 2010 Intel Corporation will launch a new High Performance Computing (HPC) optimized version of its forthcoming processor codenamed "Nehalem-EX." The 6-core chip will run at higher frequencies than 8-core versions of the Nehalem-EX processors and will offer advantages on some HPC workloads. Customers will benefit from greater memory bandwidth and capacity compared to today's solutions, and will be able to build supercomputers with up to 256 such chips; a supercomputer cluster may contain many such machines.

Intel also announced that a beta program for Intel's Ct technology will be available by the end of 2009. Intel Ct technology makes parallel programming in the C and C++ languages easier by automatically parallelizing code across multi-core and many-core processors. Additional information is available at www.intel.com/software/data-parallel.

The 34th edition of the TOP500 list shows that a record-breaking 402 of the world's top 500 systems have Intel processors inside, with increased adoption in computers designed for geophysics, financial calculations and scientific research. According to the list, Intel chips power 20 of the top 50 systems. Systems using Intel(R) Xeon(R) quad-core processors lead the list, holding 379 spots.

Only months after its arrival, the Intel(R) Xeon(R) 5500 series processor, previously codenamed "Nehalem-EP," is already significantly impacting the HPC community, powering 21 systems in the top 100.

"With the industry's rapid adoption of the Intel Xeon processor 5500 series processor, Intel has more systems than ever on the Linpack benchmark-based Top500 list," said Richard Dracott, general manager of Intel's High Performance Computing Group. "We're even more elated that customers are choosing our Xeon processor products not only for Linpack

scores, but also because of the exceptional application performance delivered across a wide range of real-world workloads found in energy exploration, science research and 3-D Internet."

The Xeon processor 5500 series is playing a pivotal role in supercomputers used for scientific research and discovery. NASA and SGI have added servers containing 2,304 energy-efficient Xeon 5500 series processors increasing the "brainpower" of the Pleiades supercomputer by 35 percent to handle NASA's commitment to advance global climate change research. Pleiades now boasts a total of 14,080 Intel Xeon processors.

At No. 10 on the list is the Sandia National Laboratories and Sun Microsystems supercomputer called "Red Sky." Red Sky features more than 10,000 Intel Xeon 5500 series processors.

The semi-annual TOP500 list of supercomputers is the work of Hans Meuer of the University of Mannheim, Erich Strohmaier and Horst Simon of the U.S. Department of Energy's National Energy Research Scientific Computing Center, and Jack Dongarra of the University of Tennessee. The complete report is available at www.top500.org.

About Intel

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