



A U.S. Department
of Energy National
Laboratory

News Release

Contact: Eleanor Taylor
(630) 252-5510
etaylor@anl.gov
For immediate release

Argonne's Leadership Computing Facility wins the High Performance Computing Challenge

ARGONNE, Ill. (Nov. 19, 2008) — The U.S. Department of Energy's (DOE) Argonne National Laboratory has been named a winner of the annual High Performance Computing (HPC) Challenge Award at the SuperComputing 08 Conference in Austin, Texas.

"It is an honor to be recognized as a winner of the HPC Challenge," said Pete Beckman, director of Argonne's Leadership Computing Facility (ALCF). "This award proves that energy efficiency and computational power are not mutually exclusive. We can still push performance boundaries and deliver stellar results while using a fraction of the power typically needed for supercomputers."

Argonne was the clear winner in two of the four categories awarded in the HPC Challenge best performance benchmark competition, which were run using 32 racks of Argonne's Blue Gene/P.

Argonne's score of 103 GUPS (Giga Updates per Second) for Global RandomAccess was almost three times faster than last year's winner. Global RandomAccess measures memory performance and stresses traditional system bottlenecks that are directly correlated to application performance.

Argonne also won the Global FFT category, which measures the floating point rate of execution of double precision complex one-dimensional Discrete Fourier Transform, which is used to efficiently transform one function into another scoring 5080 Gflops.

-more-

HPC Challenge – add one



Argonne National Laboratory is a U.S. Department of Energy national laboratory managed by UChicago Argonne, LLC.

The HPC Challenge is a suite of tests that examine the performance of high-end architectures using kernels with memory access patterns considered more challenging than those of the High Performance LINPACK benchmark used in determining the Top500 list and is sponsored by DARPA High Productivity Computing Systems Program and IDC. The goal of the competition is to focus the HPC community's attention on developing a broad set of HPC hardware and HPC software capabilities that are necessary to productively use HPC systems.

“The HPC Challenge provides an important benchmark for accelerating petascale computation for breakthrough science and engineering and will be an important measure as we begin to work towards the exascale,” Beckman added.

The ALCF is home to DOE’s Intrepid, a 40-rack IBM Blue Gene/P capable of a peak-performance of 557 Teraflops (557 trillion calculations per second). The Blue Gene/P features a low-power system-on-a-chip architecture and a scalable communications fabric that enables science applications to spend more time computing and less time moving data between CPUs, both reducing power demands and lowering operating costs.

As part of DOE's Innovative and Novel Computational Impact on Theory and Experiment program, the ALCF provides in-depth expertise and assistance in using ALCF systems and optimizing applications to help researchers from all different scientific disciplines to scale successfully to an unprecedented number of processors to solve some of our nation’s most pressing technology challenges.

The ALCF is a leadership-class computing facility that enables the research and development community to make innovative and high-impact science and engineering breakthroughs. Through the ALCF, researchers conduct computationally intensive projects on the largest possible scale. Argonne operates the ALCF for the DOE Office of Science as part of the larger DOE Leadership Computing Facility strategy. DOE leads the world in providing the most capable civilian supercomputers for science.

-more-

The U.S. Department of Energy's Argonne National Laboratory seeks solutions to pressing national problems in science and technology. The nation's first national laboratory, Argonne conducts leading-edge basic and applied scientific research in virtually every scientific discipline. Argonne researchers work closely with researchers from hundreds of companies, universities, and federal, state and municipal agencies to help them solve their specific problems, advance America's scientific leadership and prepare the nation for a better future. With employees from more than 60 nations, Argonne is managed by [UChicago Argonne, LLC](#) for the [U.S. Department of Energy's Office of Science](#).

Follow Argonne on Twitter at <http://twitter.com/argonne>.