

## Green 500 : les supercalculateurs d'IBM sont les plus performants en termes d'efficacité énergétique

**La célèbre liste de Green500.org montre que 17 des 20 supercalculateurs les plus économes en énergie au monde reposent sur la technologie HPC d'IBM**

**AMONK, N.Y - 02 juil. 2010:** IBM (NYSE: IBM) supercomputers are the most energy efficient in the world, according to the latest Supercomputing 'Green500 List' announced today by Green500.org.

The list shows that 17 of the top 20 most energy efficient supercomputers in the world are built on IBM high-performance computing technology. The list includes supercomputers from China to Germany and the United States that are being used for a variety of applications such as astronomy, climate prediction and pharmaceutical research. IBM also holds 64 of the top 100 positions on this list.

Energy efficiency, including performance per watt for the most computationally demanding workloads, has long been a core design principle in developing IBM systems. IBM systems are the most energy efficient as well as the most affordable. Energy efficient supercomputers allow IBM clients to realize critical cost savings by lowering power consumption and reducing expenses associated with cooling. For example, clients seeking to achieve petascale performance who deploy systems based on IBM Blue Gene/P -- which is over 40 percent more energy efficient than other supercomputers on the market (1) -- can realize savings on energy in excess of \$1 million dollars a year.

The most energy efficient systems in the world for the second time are three QPACE systems based on the IBM PowerXCell 8i processor. Germany's Julich Supercomputing Centre, University of Regensburg and University of Wuppertal are all tied for the top spot on the Green500 list. The systems each produce more than 773 Mflops (millions of floating point operations per second) per watt of energy.

IBM offers the broadest range of generally applicable supercomputers represented on the Green500 List including Blue Gene, Power servers, System x iDataPlex, BladeCenter and hybrid clusters.

Mississippi State University (MSU) operates the most energy efficient x86-only cluster on the list, which ranks 9th overall on the Green500. Housed in MSU's High Performance Computing Collaboratory (HPC2), the IBM iDataPlex-based cluster provides five times the performance of the University's previous, non-IBM cluster while consuming half the power. The University is using iDataPlex together with IBM's Rear Door Heat eXchanger, which actually helps to cool MSU's entire datacenter.

MSU's iDataPlex cluster supports a broad set of multi-discipline research projects from aerospace and fluid dynamics to hurricane modeling in the U.S. Gulf. The cluster is the largest supercomputing resource MSU has ever had and will allow University researchers to tackle more complex problems, such as running code used by the NASA Marshall Space Flight Center for shuttle and propulsion system analysis.

"Our IBM iDataPlex cluster will allow us to accelerate the University's important research -- including collaborations with government agencies and corporate entities -- while minimizing our power and cooling costs and taking up less space," said Trey Breckenridge, high performance computing resources and operations administrator for MSU's HPC2. "This fits with MSU's environmentally conscious mission and ensures we are making the most of the University's resources."

MSU's cluster consists of three complete iDataPlex racks. The average client using three racks of iDataPlex with the IBM Rear Door Heat eXchanger can expect to save \$16,000 per year in energy costs (2).

The Green500 list is published by Green500.org. It provides a ranking of the most energy-efficient supercomputers in the world and serves as a complementary view to the TOP500 list of worldwide supercomputers announced May 31, 2010 by Top500.org.

More information about the Green500 List is available at <http://www.green500.org>

More information about the TOP500 List is available at <http://www.top500.org>

More information about IBM and HPC Solutions: [www.ibm.com/deepcomputing](http://www.ibm.com/deepcomputing)

(1) Based on the Top500 list announced May 31, 2010.

(2) Compares 6 iDataPlex (504 servers) racks with the water cooled IBM Rear Door Heat eXchanger to 12 standard air cooled racks (504 servers). iDataPlex (84 server) rack power = 23.9kW. Standard rack (42x 1U servers) power = 12.8kW. Assumes \$0.10 kW-h rate and 24hr x 365 day operation.

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