

U.S. Data Centers Consume 45 Billion kWh Annually, Study



In a keynote address at the LinuxWorld OpenSolutions Summit in New York yesterday, Randy Allen, corporate vice president, Server and Workstation Division, AMD, revealed findings from a study that comprehensively calculated, for the first time, the energy consumed by national and global data centers annually.

Addressing the need for thorough, credible estimates on data center power use, the study found that in 2005, in the U.S. alone, data centers and their associated infrastructure consumed five million kW of energy, the equivalent of five 1,000 MW power plants.

Supported by a grant from AMD and authored by Jonathan Koomey, Ph.D., staff scientist, Lawrence Berkeley National Laboratories and consulting professor, Stanford University, the study calculates the total power used by servers both in the U.S. and around the world. The study builds on data from analyst firm IDC on the stocks and shipments of servers, as well as measured data and published estimates of the power per unit used by various server models.

The study found that in 2005, total data center electricity consumption in the U.S., including servers, cooling and auxiliary equipment, was approximately 45 billion kWh, resulting in total utility bills amounting to \$2.7 billion, with total data center power and electricity consumption for the world estimated to cost \$7.2 billion annually. The report also examines the growth in electricity demands since the year 2000, concluding that over the last five years server energy use has doubled.

"Though we have long known that data centers worldwide consume a significant amount of energy, AMD believes Dr. Koomey's findings are a wake-up call not just for the IT industry, but also for global business, government and policy leaders," explained AMD's Allen. "This study demonstrates that unchecked demand for data center energy use can constrain growth and present real business challenges. New generations of energy-efficient servers are now able to help provide IT departments with a path to reduce their energy consumption while still achieving the performance they require."

Source: AMD

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