# Synopsys Breaks Into Supercomputing Ranks With Commodity Servers

Builds Electronic Design Automation Industry's First Supercomputer to Claim 242nd Spot on Top500 List

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Synopsys, Inc. (NASDAQ: SNPS), a world leader in semiconductor design software, today announced it is the first electronic design automation (EDA) company to be included on a list of sites operating the world's most powerful supercomputers. The Synopsys-built supercomputer was ranked as the 242nd most powerful supercomputer in the world by Top500, (www.top500.org), an independent organization of international supercomputing experts that tracks the world's most powerful computers.

The Synopsys supercomputer was built to quickly perform production runs with intense compute needs. Synopsys constructed the supercomputer in less than four months using commodity Linux servers, delivering up to ten times the software performance of traditional legacy computing systems in certain applications. Synopsys' supercomputer achieved benchmark results surpassing 3.7 Teraflops -- or 3.7 trillion floating-point operations per second -- roughly equivalent to 18,000 personal computers all working together at the same time to solve the same problem.

"Synopsys IT is focused on optimizing our existing computing infrastructure to enable our engineers to perform their jobs more effectively," said Debra Martucci, CIO and vice president of IT for Synopsys. "This supercomputing milestone illustrates how we are able to do more with the IT equipment we already have. By re-configuring our existing commodity hardware, we're exceeding our performance benchmarks and achieving greater than 50 percent global utilization rates for our server infrastructure."

Rather than purchase expensive equipment that would remain idle much of the year, the Synopsys IT team re-architected and re-deployed existing off-the-shelf hardware on a nightly basis to operate, baseline and tune the supercomputer. This strategy maximized total cost of ownership while minimizing any impact to daily business operations. During more than one thousand scheduled system tests, the IT team constructed the testing requirements and measured and tuned the various configuration options. This allowed them to maximize operational performance with minimal additions to the network and compute infrastructure.

The Synopsys supercomputer, completed in September 2006, is comprised of 329 Linux servers connected by non-blocking standard Gigabit Ethernet. It was assembled from six pre-existing clusters of Linux servers used by Synopsys engineers during business hours.

In recent years the cost of supercomputing has plummeted, largely due to the rise of Linux and dramatic improvements in the performance of commodity computing servers, analysts say. Thanks to these price-to-performance gains, sales of high-performance computers grew at 24 percent to $9.2 billion in 2005, according to market research firm IDC (IDC, "Looking Back and Forward - What Has Changed in the Technical Computing Market?" Doc #204099, Nov 2006).

Twice a year, the Top500 organization ranks the most powerful computers in the world at commercial, scientific and academic research institutions. The Top500 list is determined by technology experts from the University of Mannheim, Germany, the University of Tennessee, and Lawrence Berkeley National Laboratory in California who review supercomputer speeds as well as the data they process. The organization was founded in 1993 to provide a reliable basis for tracking and detecting trends in high performance computing.

About Synopsys

Synopsys, Inc. is a world leader in EDA software for semiconductor design. The company delivers technology-leading semiconductor design and verification platforms and IC manufacturing software products to the global electronics market, enabling the development and production of complex systems-on-chips (SoCs). Synopsys also provides intellectual property and design services to simplify the design process and accelerate time-to-market for its customers. Synopsys is headquartered in Mountain View, California and has offices in more than 60 locations throughout North America, Europe, Japan and Asia. Visit Synopsys online at http://www.synopsys.com/ .

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