



Electronic Design Automation

Synopsys Technology Running Solaris 10 OS Achieves World-Class Performance and Efficiency

Highlights

Company

Synopsys, Inc.
www.synopsys.com

Partner Overview

A world leader in delivering semiconductor design software, intellectual property (IP), design for manufacturing (DFM) solutions, and professional services that companies use to design systems-on-chips (SoCs) and electronic systems.

Key Industry Needs

Today's integrated circuit designs pack more functionality into chip real estate than ever before. These complex designs require a corresponding increase in verification complexity.

Solution

By running Synopsys on the Solaris™ OS you'll get the power of multicore systems based on SPARC®, AMD, and Intel CPU architectures with the reliability and stability you need for long design cycles.



Synopsys, Inc., is a world leader in delivering semiconductor design software, intellectual property (IP), design for manufacturing (DFM) solutions, and professional services that companies use to design systems-on-chips (SoCs) and electronic systems. The company's products enable semiconductor, computer, communications, consumer electronics, and other companies that develop electronic products to improve performance, increase productivity and achieve predictable success from systems to silicon.

Compute power, multimedia, graphics, video, and communications features are converging in consumer products, putting additional pressure on engineers to create designs that are especially sensitive to cost, power consumption, and size. Synopsys gives its customers a competitive edge in bringing the best products to market quickly while reducing costs and schedule risk. From high-level synthesis to silicon, Synopsys provides solutions to the most difficult challenges that confront engineers who are pushing electronic design to the limit. Chances are, Synopsys technology was used on the chips in the electronics you rely on every day.

Synopsys and Sun

Today's integrated circuit designs pack more functionality into chip real estate than ever before. These complex designs require a corresponding increase in verification complexity, and Synopsys VCS® is an excellent tool to tackle the job. Running VCS on a compute grid maximizes verification throughput and system resources. You might be thinking about upgrading the systems in your compute farm to more powerful, energy-efficient, multicore systems based on AMD and Intel CPU architectures (x64), such as the quad-core Intel Xeon systems from Sun. However, with design cycles of two to three years, you need the reliability and stability you've become accustomed to with the Solaris™ Operating System (OS). Now you can have both.

Synopsys VCS takes advantage of multiple cores in the compute farm by delivering faster verification performance. The Sun Fire X4150 and X4450 servers feature dual- and quad-core Intel Xeon processors. With large on-die caches and high clock speeds, these processors offer high performance and throughput. The Sun Fire X4150 servers support two CPUs for up to 8 cores, and the Sun Fire X4450 servers support four CPUs for a maximum of 16 cores. All of Sun's x64 servers run the Solaris 10 OS, Linux, Windows, and VMware.

Energy-Efficient Power for VCS Compute Farms

The impressive power of these systems makes them attractive for compute farms, but a key differentiator is energy efficiency. Every company is striving to reduce costs wherever possible, and datacenter power is a primary target for cost-cutting measures – driving IT manager to choose systems that use less power and cooling, especially when idle. The Intel processors in the Sun Fire X4150 and X4450 servers incorporate new power management capabilities that limit power to unused execution units in each core, which helps reduce power and cooling requirements. Highly efficient power supplies, variable speed fans, and front-to-back airflow complete the package to effectively cool the system and reduce power use. To maximize uptime, systems include redundant hot-swappable fans, hot-swappable drives, and can be configured with redundant hot-swappable power supplies.

“As the leading provider of software and IP for semiconductor design and manufacturing, Synopsys continues to invest in new technologies that increase productivity for our customers,” said Swami Venkat, Senior Director of Verification Marketing for Synopsys. “Solaris 10 for x64 platforms is the type of technology that allows us to stay customer focused and competitive, while providing our customers with the stability they require for long-term verification cycles.”

Until recently, if you wanted to run Synopsys VCS on Sun’s x64 systems, the supported OS was Linux. Many corporations, though, prefer commercially supported operating systems. With long-term design cycles of two to three years, the last thing you want to deal with is the unpredictable releases of an unsupported open source operating system. The Solaris OS general availability lifespan is at least four years and six months, with periodic updates that incorporate a set of tested, integrated patches along with new features and support for new hardware. With the Solaris OS, you know that you’ll be working on a stable OS for the life of your design cycle.

Verification of today’s complex designs can entail hundreds of tests, each running close to an hour or more. Anything, then, that enhances the reliability of the system means faster verification and time to market. Solaris Predictive Self Healing keeps VCS tests running by enabling the system to heal itself. An innovative capability in the Solaris 10 OS, it automatically diagnoses, isolates, and recovers from many hardware and application faults. As a result, VCS and essential system services can continue uninterrupted in the event of software failures, major hardware component failures, and even software misconfiguration problems.

Synopsys on Solaris 10 OS

VCS Y-2006.06-SP2

VCS is the industry’s most comprehensive and performance-driven RTL verification product, providing advanced bug-finding technologies, a built-in debug and visualization environment, the most widely used and proven VMM methodology, the largest library of high-performance verification IP, and support for all popular design and verification languages, including SystemVerilog, VHDL, Verilog, and SystemC.

Built For Success

“Sun and Synopsys have been long-time collaborators, offering a breadth of solutions for complex design and verification challenges,” says Venkat.

Today, you can rely on the Solaris OS’ proven performance, stability, and reliability on systems based on the AMD and Intel CPU architectures – so you can take advantage of the price/performance of these platforms for your EDA needs to help drive your bottom-line success.

Learn More

For more information on Synopsys and the Solaris Operating System, please see www.sun.com/synopsys

SYNOPSYS®

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