ANSYS Releases Simplorer 8.0 Software

New Simulation Advancements Reduce Engineering Time and Aid Design of Mechatronic and Multi-Domain Systems

SOUTHPOINTE, Pa.--(BUSINESS WIRE)--Apr. 20, 2009-- ANSYS, Inc. (NASDAQ: ANSS), a global innovator of simulation software and technologies designed to optimize product development processes, today announced the latest release of Simplorer® software. Part of the Ansoft family of electronic design automation (EDA) products, Simplorer is used for the design of mechatronic and other multi-domain systems, which are commonly found in the automotive, aerospace/defense and industrial automation industries. The new release introduces a powerful, next-generation user interface, advanced modeling capabilities including dynamic links to other Ansoft software, enhanced integration with third-party simulation software, and computational performance enhancements.

Simplorer software greatly reduces engineering time and prototype iterations while improving design performance of electrical, mechatronic, power-electronic and electromechanical systems, such as hybrid-electric drive and anti-lock braking in automobiles, robotics used in industrial automation, and power electronic equipment used to control and convert electric power. Simplorer technology enables engineers to model, simulate, analyze and optimize such complex systems. Using the software’s powerful modeling features and communication backplane technology, engineers are able to construct virtual prototypes of all aspects of a system including the electronics, sensors/actuators, motors, generators, power converters, controls and embedded software. This enables engineers to investigate system functionality and performance and to verify overall design. The result is a dramatic reduction in development time and cost, increased system reliability and performance optimization.

“In today’s market, there is a huge demand for more automated, functional and higher-performing products. In order to satisfy this demand, engineers must now address the convergence of electronics, mechanics and control engineering when designing a product — whereas in the past they could concentrate solely on a single discipline. The new release of Simplorer technology addresses this trend,” said Dr. Marius Rosu, product manager for Ansoft electromechanical products. “The state-of-the-art user interface and electromagnetic coupling technologies introduced in Simplorer 8.0 will enable users to create a highly accurate, customized design flow for rapidly emerging applications that involve multiple engineering domains. It is an important step to integrating the ANSYS multiphysics capabilities into future releases.”

The new state-of-the-art user interface in Simplorer software allows engineers to easily and concurrently utilize multiple modeling techniques including circuits, block diagrams, state machines, equation level, and modeling techniques such as the IEEE open standard VHDL-AMS, SML (Simplorer Modeling Language) and C/C++. Using the product’s powerful communication backplane technologies, these standard modeling techniques and modeling languages can be used concurrently within the same schematic, allowing users to create analog, digital and mixed-signal multi-domain designs, to manage modeling data, and to execute simulations. The user interface supports multi-page designs and multiple levels of hierarchy, provides maximum flexibility, and eliminates the need for error-prone mathematical transformations and model analogies employed by single-domain simulation tools.

New and Enhanced Features

- Insulated gate bipolar transistor (IGBT) device characterization tool, allowing users to quickly and accurately create average and dynamic models of power semiconductor devices
- Power Module Characterization tool, which aids in building DC-to-DC converter models by entering data directly from the manufacturers’ specifications
- Online model database that includes more than 1,200 SPICE models of common components offered by suppliers; includes a model library of ultra-capacitors from Maxwell Technologies
- Direct support for SPICE and PSPICE model text
- Co-simulation links to complementary simulation software, including Simulink®, ModelSim® and QuestaSim®, allowing users to easily incorporate control programs and digital designs for field-programmable gate array (FPGA)
semiconductor devices and application-specific integrated circuits (ASICs)

- Co-simulation links with Verilog for design, verification and implementation of digital logic chips
- New function handling techniques and solver methodologies to optimize simulation performance
- Integration of the Society of Automotive Engineers (SAE) VHDL-AMS statistical package, which is useful in defining the statistical variation of parameters of electrical, electronic, and mechatronic components and sub-systems
- Distributed solve capability that allows users to distribute parametric variations across a network of computers, enabling the exploration of more design possibilities in less time

The unique advantage of Simplorer software is its ability to integrate multiple modeling technologies. Many components in nonlinear dynamic systems cannot be modeled with the required precision by using existing system modeling techniques or modeling languages. To accurately represent the physics of critical system components such as sensors, actuators and electrical machines, finite element analysis must be employed. Simplorer provides a direct link to Ansoft’s industry-leading Maxwell®, Q3D Extractor®, RMxprt™ and PExprt™ software. These links will be expanded to include ANSYS® Multiphysics™ in a future release. The coupling technology and model reduction techniques of Simplorer provide users with the capability to transform detailed and full-accuracy physics-based models produced by finite element software packages to high-level system simulation.

For downloadable images, visit http://www.ansys.com/newsimages.

About ANSYS, Inc.
ANSYS, Inc., founded in 1970, develops and globally markets engineering simulation software and technologies widely used by engineers and designers across a broad spectrum of industries. The Company focuses on the development of open and flexible solutions that enable users to analyze designs directly on the desktop, providing a common platform for fast, efficient and cost-conscious product development, from design concept to final-stage testing and validation. The Company and its global network of channel partners provide sales, support and training for customers. Headquartered in Canonsburg, Pennsylvania, U.S.A., with more than 60 strategic sales locations throughout the world, ANSYS, Inc. and its subsidiaries employ approximately 1,700 people and distribute ANSYS products through a network of channel partners in over 40 countries. Visit www.ansys.com for more information.

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