

Aligned with the ANSYS Vision

The Ansoft product suite will help deliver benefits to the entire ANSYS engineering simulation community.

By Barry Christenson, Director of Product Management, ANSYS, Inc.

The Ansoft product suite is not merely a strong addition to the considerable tool kit from ANSYS; it will also advance the vision for Simulation Driven Product Development. For the combined community of Ansoft and ANSYS users, some benefits of this depth of solution will be realized immediately; even more value will be revealed in innovative ways throughout long-term product development. The Ansoft technology integration will allow users to perform simulated tests that would otherwise not be possible, a process that is critical to customers exploring and expanding operational boundaries in developing leading-edge products and processes.

Delivering world-class technologies has been part of the ANSYS strategy for developing — and acquiring — new capabilities. Ansoft solver products HFSS and Maxwell, for high-frequency electromagnetic and low-frequency electromechanical simulations respectively, add two world-class leaders in their physics areas.

The ANSYS vision for virtual prototyping targets the simulation of complete systems. To date, the company provides comprehensive multiphysics, meshing and high-performance solvers for high-fidelity 3-D product simulation. Ansoft brings a new concept to the portfolio with the Simplorer product for simulating 1-D systems modeled through a schematic, or circuit, interface. Future

development efforts at ANSYS have the opportunity to link 1-D circuit and 3-D high-fidelity simulation applications through reduced-order models and co-simulation techniques. Ultimately, this will provide a tightly integrated environment for simulating complete systems that include both control and hardware elements.

Historically, Ansoft has shared the ANSYS vision for multiphysics simulation by creating straightforward ways for solvers to exchange data. For upcoming releases, the combined development team will consider ways to harmonize that exchange mechanism and deliver true multiphysics integration between all of the core solver products.

Process compression is about delivering software solutions that remove significant time and effort from users' typical simulation methods. Maxwell and RMXprt products from Ansoft deliver superior performance for electric motor design and analysis. This solution enables users to define motor parameters in a tabular user interface, perform a 3-D simulation and examine the resulting motor performance characteristics very quickly. Additionally, Ansoft's high-performance electronic design products are very effective in shortening the design cycle of high-frequency and high-speed electronic components and systems.

Just as ANSYS has designed its core products to be CAD independent, Ansoft products have interfaces with all major ECAD systems. Thus, over time, the fundamental ANSYS alignment with MCAD systems will be expanded to include a comprehensive list of major ECAD systems available today.

Bringing these Ansoft and existing ANSYS technologies together will create a dynamic engineering simulation collaboration environment that defines and communicates the process for electronics simulation. For example, in an electric motor drive system application, this solution will allow one engineer to model the power control system, another to develop the motor hardware, and still another to simulate the mechanism, and all three together can understand the effects of the physics coupling.

As the Ansoft technologies are fully integrated into the product suite from ANSYS, customers will find that they can simulate their products in ways they never imagined possible. ■



The ANSYS vision involves a solid base of advanced technologies that enables virtual prototyping. Process compression speeds up the simulation effort. And finally, dynamic collaboration results in innovative products. The ANSYS Workbench platform provides the framework for the process, combining the steps in a truly coupled fashion.