E-System Design, Inc. Releases “Sphinx for Signoff” a Revolutionary New Signal and Power Integrity Co-Simulator for IC Packaging and PCB Design

“Sphinx for Signoff”, allows IC packaging and PCB designers to quickly, accurately, and confidently verify the performance of their designs before release to manufacturing

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E-System Design, Inc. today announced the release of “Sphinx for Signoff”, a revolutionary new Signal and Power Integrity Co-Simulator, for IC packaging and printed circuit board design. The Sphinx product family uses a unique methodology (M-FDM) and over the past year, numerous customers have *validated* Sphinx’s accuracy and simulation run times. Many of these evaluations were performed on advanced and complex structures that other commercially available tools *could not* simulate accurately. With the addition of 64 bit Sphinx for Signoff; state of the art, complex designs can now be analyzed very quickly and accurately in order to avoid expensive design errors prior to their release to production and final signoff for manufacturing. Traditionally, designers have relied on full wave simulators or fast EM solvers to perform signal and power integrity simulations of their designs. Full wave simulators take a very long time to run simulations and therefore only allow the designers to simulate small portions of their design and do not account for all of the coupling effects in a complete design, including the coupling effects that can affect the critical paths they are evaluating. Many of the Fast EM solvers used to estimate performance suffer from reduced accuracy. With the addition of 64-bit support, Sphinx for Signoff now allows engineers to have both, accuracy and fast simulation times, and no compromises are required.

“I have worked with E-System Design for more than 2 years to help confirm correlation between Sphinx and measurements”, said Moises Cases, founder of The Cases Group, an Austin, TX consulting company focused on Signal and Power Integrity analysis. “I was both impressed and excited to see the level of accuracy we were able to achieve both in the frequency and time domain, and I have yet to come across a simulator that is able to capture second order coupling effects between signal interconnections and power distribution with the same level of accuracy and speed as Sphinx. I look forward to using Sphinx for Signoff as an early analysis and full design sign off tool as part of our design flow for our customers.”

“I have developed and worked with this technology for many years, but since our product introduction last year it has been especially gratifying to have customers provide feedback such as: "*This is the first time we have seen accurate* correlation in both the frequency and time domains", "*This is the first time* we have seen a tool show promising results at low frequency, etc.", said Madhavan Swaminathan, CTO, founder of E-System Design, and principal author of the book “Power Integrity Modeling and Design for Semiconductors and Systems (Prentice Hall)”. “Sphinx’s accuracy is largely due to the fact that we account for effects that many other tools and algorithms overlook. Designers have begun to realize that many of these effects are significant and must be accounted for in order to perform an accurate analysis.”

Additional features of Sphinx for Signoff include:

- Support for DXF, MCM, BRD and SiP file formats
- Perform quick ‘what if analysis’ by allowing users to modify their existing designs inside of Sphinx for Signoff (Can add or delete, layers, transmission lines, vias, and capacitors)
- Add capacitor vendors’ libraries to ensure only approved capacitors are used in any ‘what if’ analysis
- View meshed design before simulation, removing any doubt whatsoever of ‘what’ is being analyzed
- Offers scripting to achieve faster turnaround time for common operations
- Easily perform Time Domain analysis with an integrated and proven flow using Sphinx’s Touchstone files that are converted into robust, passivity and causality conforming spice netlists using IdEM Plus
- Incorporate spice models of complete packages and PCBs for system level analysis

““Sphinx’s excellent correlation to measured results and its fast and efficient engine based on (M-FDM) allows engineers to quickly identify where problems exist, perform ‘what if’ analysis on critical paths and reach design closure very quickly.” said Gene Jakubowski, CEO and co-founder of E-System Design. “This product will increase confidence and significantly shorten the time needed to release a design for manufacture.”

Availability

Sphinx for Signoff is available now from E-System Design. For more information, please contact sales@e-systemdesign.com.

About E-System Design

E-System Design, Inc. is an industry leading provider of electronic design automation (EDA) tools for advanced electronic systems. Our focus is on System Integrity through the accurate modeling of highly integrated IC packages, printed circuit boards and systems, so our customers can achieve optimal performance and first pass manufacturing success. The company is headquartered in the metro Atlanta, GA area with direct and third party sales and support services available throughout the world, to better serve the electronics industry. Additional information about E-System Design, our products, and our technology is available at www.e-systemdesign.com.

About The Cases Group, LLC

The Cases Group, LLC is a Limited Liability Company (LLC) certified in the State of Texas, U.S.A. The staff consists of a group of experienced designers whose skills and experience cover a very broad segment of the electrical design, modeling and verification of high speed digital systems. The company's focus is on the design, modeling and simulation of the electronic packaging of the digital systems including chip packaging, system printed circuit boards, and cabling assemblies; including system timing closure, system verification and physical design guidelines. Additional information about The Cases Group, LLC is available at www.thecasesgrp.com.

Editorial Contact:

Gene Jakubowski
E-System Design, Inc.
678-296-3772
ski@e-systemdesign.com

SOURCE: E-System Design, IncWeb site: http://www.e-systemdesign.com/