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**Sigrity Announces XtractIM™ Version 3.0 for IC Package Modeling**  
*Next-generation assessment capabilities enable Altera, Qualcomm, others to rapidly identify and fix performance issues*

**SANTA CLARA, Calif. – July 22, 2009** – [Sigrity, Inc.](http://www.sigrity.com), known for its signal and power integrity solutions for ICs, packages and printed circuit boards, today unveiled a new version of its XtractIM product – Version 3.0 – that sets a new industry standard for IC package modeling. It offers the fastest, highest capacity analysis engines, complemented by package design automation that goes beyond extraction to enable clear identification of potential performance issues. These new capabilities allow package designers to assess performance of signal and power delivery nets intuitively, characterize a broader set of package types, and extract electrical models with improved accuracy. Sigrity's rapid release cycle for XtractIM 3.0 brought to market in less than six months these significant enhancements suggested by engineers at Altera and Qualcomm. Specifically, XtractIM 3.0:

- Delivers a practical assessment method for complex SiP power delivery nets, and support for single-die packages; this approach simplifies the identification of design defects such as problematic die-side or board-side pins to reduce performance risk and analysis time;
- Extends the tool's novel electrical performance assessment capabilities with a new signal net assessment analysis and results display; self impedance and coupling to other nets are computed and displayed versus position along each signal net, allowing package designers to pinpoint performance issues in complex designs efficiently and intuitively;
- Supports quad flat pack (QFP), quad flat pack no leads (QFN), and VQFP – a novel high pin count hybrid of QFP and QFN package styles; and
- Further increases analysis accuracy with refined analysis engine component models for vias, pads and traces in support of single-segment RLGC or IBIS models, and

multi-segment broadband models for analytically assured accuracy and efficient support for system-level time domain circuit simulation.

Even experienced package engineers find it challenging to pinpoint potential issues in complex designs. XtractIM's novel assessment approach consists of fast setup, simulation and defect visualization for rapid issue resolution. Users can clearly see qualitative information, and examine root cause physical structures simultaneously. With XtractIM, users can observe both die- and board-side package issues, including places where the design may not meet specified per-pin resistance and inductance. Unaddressed, these weak pins can negatively impact overall system performance. In addition, designs with multiple power nets also have potential loop inductance issues associated with shared return paths; and signal nets can be susceptible to excessive impedance and to coupling with other nets. XtractIM identifies these hard-to-find problems and does so in a way that is clearly understood even by non-experts.

Altera Corporation partnered with Sigrity to provide early guidance for XtractIM to enhance both functionality and package extraction flow. Hong Shi, Engineering Manager for FPGA package design at Altera, states, *"We began using XtractIM nearly two years ago and it quickly became our primary RLGC model extraction solution. We are pleased with the accuracy of XtractIM models and very impressed with the dramatic analysis time speed-ups we experience relative to previous tools."*

XtractIM goes beyond typical extraction to provide novel power/ground assessment capability with automated results that correspond to the specifications provided by IC design teams. According to Steve LoCicero, Senior Director of Engineering at Qualcomm *"Sigrity's XtractIM provides a solution with fast analytical results and an intuitive graphical display that went beyond our initial requirements. With XtractIM as part of our design flow, we can identify potential problems such as weak power pins much more quickly."*

### **Fastest-growing solution for package model extraction**

The initial release of XtractIM in October 2006 provided more than a 10-times speedup for package model extraction. It further delivered a new level of capacity to consider the full package in a single analysis, which increases both accuracy and efficiency.

XtractIM has implemented a number of capabilities to address the shortcomings of classical RLGC package model extraction, such as a unique approach for analytically-assured broadband models that bridges the gap to full-wave S-parameters, while maintaining the benefits of lumped circuit models with small file size.

To complement these core analysis functions, XtractIM also has focused on automation, including: intuitive displays of a broad class of design data and an electrical performance assessment flow for analysis setup and results display. XtractIM supports a comprehensive and continually expanding class of package types. BGA packages with as many as a few thousand pins are supported, including: flip chip and wirebond, single-die and multi-die SiP, package-on-package, etc. Leadframe packages also are supported.

All of these capabilities have helped XtractIM become the fastest-growing design solution in the relatively mature market of RLGC package model extraction. XtractIM continues to displace previous generation solutions at an increasing rate among both semiconductor and package manufacturers.

To download a product image: <http://www.sigrity.com/company/news/2009news.htm>

### **Availability**

XtractIM 3.0 is now available for download by existing XtractIM users.

### **About Sigrity**

Sigrity, Inc., a privately held U.S. company incorporated in 1998, delivers advanced software solutions for package physical design and for analyzing power and signal integrity in chips, packages and printed circuit boards. Sigrity's patented electrical analysis methodologies run orders of magnitude faster than general-purpose electromagnetic tools, helping nearly 200 companies in the semiconductor, computer, graphics, communications and networking industries ensure high performance and reduce time to market. The company is headquartered in Santa Clara, California. For more information, please visit: <http://www.sigrity.com>.

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