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KLA-Tencor's New LithoWare Tool Gives Designers Advanced RET/OPC Capabilities That Save Design Time, Reduce Time-to-Production

SAN JOSE, Calif.--(BUSINESS WIRE)--

KLA-Tencor (NASDAQ:KLAC) today introduced LithoWare, a new Linux-based product enabling semiconductor circuit designers to dramatically reduce the time and cost to develop RET(a) and OPC(a) processes. LithoWare is a lithography optimization tool based on the industry-standard PROLITH models that reduces time-to-production by allowing customers to co-optimize the RET and the process conditions simultaneously, while minimizing calibration data collection.

"With its unmatched level of predictive accuracy and the ability to run on Linux clusters, LithoWare gives RET developers the best of both worlds," noted Edward Charrier, General Manager, Process Analysis Division of KLA-Tencor. "RET engineers can use LithoWare's uniquely flexible, predictive capabilities to optimize their OPC at the same time they explore lithography conditions such as illumination, the latest photoresists, PEB(a), and more. Using LithoWare, they can more quickly create an RET recipe, and then ensure it works across the entire process window - enabling more robust and manufacturable designs."

Most EDA products run on a Linux/Unix environment and LithoWare provides full compatibility with these products without leaving the Linux environment. With LithoWare, users can load GDSII files, select multiple simulation regions, conduct OPC decoration interactively by changing illuminations on the fly, and output an OPC-decorated mask clip as a GDSII file.

Recent estimates are that the number of lithography simulations required to develop a 32nm design could approach hundreds of millions per mask layer. Operating in a Linux environment allows LithoWare to distribute huge volumes of simulations across a large number of computers, giving engineers the ability to perform advanced computational lithography and explore an extended set of process parameters that would not be possible on individual PCs or with other tools without a major re-calibration effort for each change. LithoWare's Linux-based architecture also leverages customers' existing computer investments, with no need for additional hardware. LithoWare is already being used at IC companies in both the US and Japan to enhance their RET development productivity.

"Since standard full-chip RET/OPC production models have very limited illumination predictability and don't support process changes on the fly, they require a lengthy and expensive sequence of mask fabrication, wafer printing, measurement and model calibration that can take days, weeks or even months. LithoWare allows engineers to get it right the first

time by providing a unique 'what-if' exploration capability which can optimize large numbers of process and RET variables on the fly," Charrier said.

LithoWare provides RET/OPC engineers and designers with a tool that is very easy to use compared to conventional tools. This can cut cycle times since RET/OPC engineers or designers can quickly check whether their designs or new ideas contain lithography violations. They also do not need to wait for their process engineers or foundry partners to provide proprietary process information and results.

KLA-Tencor will demonstrate LithoWare at the upcoming Design Automation Conference (June 4-9) in San Diego. Interested users can register on-line for a product demonstration through KLA-Tencor's web site under www.kla-tencor.com/Events/LithoWare Reception (http://www.kla-tencor.com/events/event/Prolith_SD_2007_regform.html).

(a) RET = resolution enhancement techniques; OPC = optical proximity correction; PEB = post-exposure bake

About KLA-Tencor: KLA-Tencor is the world leader in yield management and process control solutions for semiconductor manufacturing and related industries. Headquartered in San Jose, California, the Company has sales and service offices around the world. An S&P 500 company, KLA-Tencor is traded on the NASDAQ Global Select Market under the symbol KLAC. Additional information about the Company is available at http://www.kla-tencor.com.

Source: KLA-Tencor