

Gauda, Inc. Announces Breakthrough for Accelerating OPC and Verification in 45nm and 32nm Technology Nodes

Startup accelerates “time to mask”; demonstrates 200x faster performance than traditional solutions, full-chip verification on a single desktop PC

SUNNYVALE, Calif., February 25, 2008 — Gauda, Inc. announced today that it has demonstrated a breakthrough technology that can accelerate OPC (optical proximity correction) and OPV (optimal proximity verification) up to 200 times faster than traditional solutions, running on today’s desktop computers. Gauda achieves this acceleration without any specialized hardware or FPGAs, but by developing a new breed of algorithms utilizing CPUs and GPUs (graphical processing units) that are traditionally used for gaming. With Gauda technology and approximately 10 all-commodity desktop computers, a large 45nm full-chip layout can be decorated overnight. Similarly, a single desktop computer is sufficient to complete verification overnight.

As design is moving to the 45nm and 32nm technology nodes, requisite computations increase by two to three times per year. Unfortunately, CPUs are not addressing this need, managing only a 30% increase in computation growth per year. To solve RET (resolution enhancement technologies) problems, the only current solution is to keep increasing the size of CPU clusters, which often number in the thousands. Tool vendors are at an inflection point where the time it takes to rewrite tools is lagging behind the changes in process nodes.

Fortunately, Gauda has anticipated this inflection point, realizing an attractive speed advantage for OPC using GPUs. Gauda engineers started by studying the available computational resources commonly found in typical desktop computers and optimized those resources to speed up the RET-related computations without sacrificing accuracy. From the beginning, the company decided not to use any specialized hardware.

“Gauda is in an enviable position. Its strength is a technology that spans all parallel software development,” said Gary Smith, founder and chief analyst at Gary Smith EDA. “Gauda is aiming its technology at an application that is on the leading edge of parallel computing. Once the company gains traction and the reputation that goes along with it, Gauda will be able to shift its attention to larger markets.”

In stealth mode since its inception in late 2005, the company now has demonstrated technology that is linearly scalable to several hundred desktops, making it possible to complete OPC or verification tasks within a few hours. Gauda technology runs on standard desktop computers equipped with graphics cards usually sold by companies such as NVIDIA and ATI.

“With the growth of GPU computational capability every year, our technology not only fits today’s needs, but also has the potential to address future computational requirements,” said Dr. Ahmet Karakas, Gauda’s founder, president and CEO. “Gauda technology is seamlessly portable to current and future GPU platforms. This and many other features of our technology make it a perfect candidate to enable DFM efforts, since our solution is available with minimal or no additional hardware cost.”

Gauda raised seed funding from a world-renowned, high profile group of investors in mid-2006, and is actively developing its first product. The company was founded by Dr. Ahmet Karakas and Ilhami Torunoglu, a veteran of the EDA industry who also has extensive chip design experience, and is staffed by developers with advanced degrees from Caltech and Stanford University.

“In order to reach the speeds we’ve achieved, we ended up developing our own parallel algorithms from scratch. Our solution is not limited to GPUs; we currently use CPU+GPU optimally as a resource in a typical desktop computer, but the software has the potential to expand to other parallel compute engines,” said Ilhami Torunoglu, Gauda’s CTO and co-founder.

About Gauda

Gauda is the first company to introduce the technology to accelerate computation for OPC (optical proximity correction) using GPUs (graphical processing units). The company has developed a new breed of algorithms that accelerate the most computation-intensive EDA applications by utilizing both the GPUs and CPUs commonly found in all computers, without sacrificing accuracy. Gauda technology can significantly reduce time to market and improve yield. Gauda has been in operation since mid-2006 and is located in Sunnyvale, CA. More information is available at www.gauda.com

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