



**FOR IMMEDIATE RELEASE**

## **Extreme DA Announces GoldTime MXO for True Optimization of Complex Digital SOC Designs**

*Up to 10X Faster Timing Sign-off and Design Improvement  
Across Operating Modes and PVT Corners*

**Santa Clara, Calif.** — June 4, 2008 — Extreme DA™, the emerging leader in new-generation timing analysis software, announced the addition of multi-dimensional optimization (MXO™) capability to its GoldTime™ timing analyzer. GoldTime MXO provides the fastest way to analyze complex digital SOC designs with the smallest number of computer resources. The accuracy and completeness of timing analysis is important to ensure that complex designs will become working integrated circuits (ICs). **Visit Extreme DA in booth 1364 at the Design Automation Conference in Anaheim, Calif., June 9 – 12.**

### **Multiple-Modes, Multiple Corners**

With use of advanced nanometer semiconductor processes, there are inevitable variations in the manufactured silicon. Also, modern chips are expected to tolerate a wide range of environmental conditions such as voltage and temperature. All of these effects need to be analyzed before manufacture. However there is a further complication; the chip itself typically has various operating or power (standby, low-battery) modes that need to be considered. Designers perform a multi-mode, multi-corner (MM/MC) timing analysis to ensure correct operation under all these conditions. In the latest generation of chip designs there has been an explosion of modes and corners that need to be considered. Finding and fixing timing problems is a lengthy, time-intensive, and iterative process. Analysis runs taking more than a single day stall design improvement and optimization efforts, lengthen the design cycle, and raise development costs for new products.

GoldTime MXO delivers a breakthrough in speed and capacity for the most complex IC designs and makes MM/MC analysis run in just hours. Other solutions in the marketplace offer only simple distribution of scenarios and require the use of a farm of computers, each with substantially more memory to perform analysis.

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Extreme's unique ThreadWave™ technology allows all process, voltage, and temperature corners to be analyzed concurrently with only a minimal runtime penalty. Through fine-grain multi-threading, a complete multi-corner timing analysis can run in parallel on a single multicore workstation, such as the Intel Xeon and AMD Opteron, to dramatically reduce analysis times to just hours. Analysis proceeds along a virtual wave front through the design, and capacity requirements grow sub-linearly with an increase in design size. GoldTime with ThreadWave technology has unlimited capacity for the largest flat designs.

The coarse-grain multi-threading in GoldTime MXO enables simultaneous multi-mode analysis across one or more multicore workstations. This efficient use of processing resources and the small memory footprint means faster completion of analysis and efficient use of licenses, even if the number of workstations is limited. No longer are expensive brute-force scenario methods required to get faster analysis throughput.

GoldTime's unified analysis database provides the most efficient and precise means to store and optimize analysis data. Optimization inside the timing analysis loop means improvements are considered simultaneously. Design improvements or engineering change orders (ECOs) are generated with a better quality and precision than scenario methods that collect and post-process separate runs.

Mustafa Celik, CEO of Extreme DA, said, "In the last twelve months we have been able to increase the throughput and speed of analysis of GoldTime by 2X. With the addition of the new MXO multi-dimensional optimization capability, we are realizing up to a 10X speedup over distributed scenario computing. Our ThreadWave technology delivers better ECOs faster. We continue to be the market leader in delivering accurate timing analysis that combines the fastest speed and lowest memory footprint."

#### **About Extreme DA GoldTime**

GoldTime provides timing analysis for performance sign-off of integrated circuit (IC) designs manufactured in advanced nanometer (nm) processes. With its unique, patent-pending ThreadWave technology, GoldTime delivers 5X better speed and capacity over popular solutions in use today. GoldTime works with both nominal and statistical model libraries and supports corner-based and statistical design flows.

**About Extreme DA**

Headquartered in Santa Clara, Calif., venture-funded Extreme DA develops and licenses software products for the timing sign-off of nanometer integrated circuits. The company's investors include Foundation Capital, IT-Farm Corporation, and Lanza techVentures. For the latest news and information on Extreme DA, visit [www.extreme-da.com](http://www.extreme-da.com) or write to [info@extreme-da.com](mailto:info@extreme-da.com).

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**Contact :**

Jean Armstrong, PR Counsel for Extreme DA  
Armstrong Kendall, Inc.  
[jean@akipr.com](mailto:jean@akipr.com)  
503-672-4680