

## GoldTime™ Sign-off Timing Analysis Delivers Speed and Capacity Breakthrough Without Compromise

GoldTime is the industry's performance leader in timing and SI analysis for sign-off of SoCs implemented in the most advanced nanometer process nodes. Built from the ground-up with a new architecture, GoldTime delivers a breakthrough in speed and capacity. Get accurate timing results in minutes, not hours, like older timing tools.

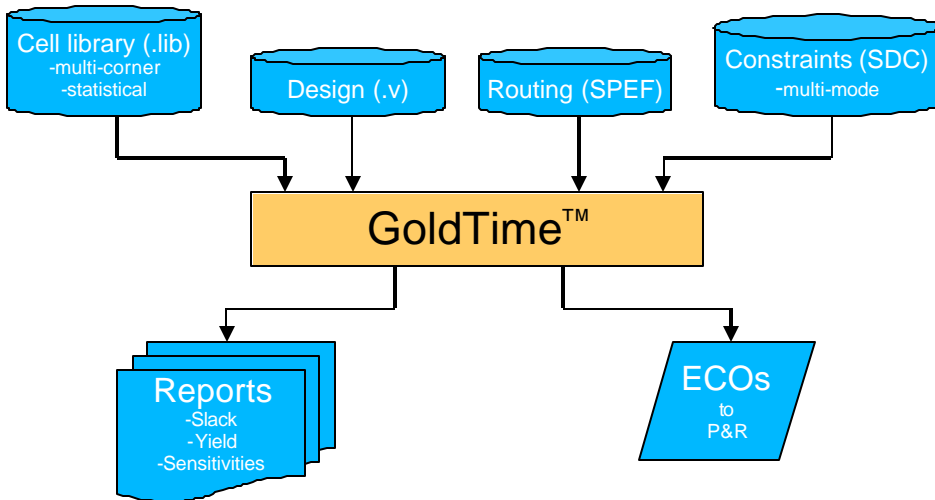


Figure 1. Extreme DA GoldTime fits into existing timing sign-off environments.

### ThreadWave Technology

The ThreadWave technology in GoldTime delivers breakthroughs in speed and capacity for the most complex of IC designs, and makes traditional multi-corner analysis run dramatically faster.

In GoldTime, analysis proceeds along a virtual wavefront through the design, and capacity requirements grow sub-linearly with an increase in design size. As only the wavefront consumes system memory, GoldTime with ThreadWave technology can analyze the largest flat designs.

Through fine-grain multi-threading, a single timing analysis runs in parallel on multiprocessor and multicore workstations, such as the Intel Xeon and AMD Opteron, to dramatically reduce the time for analysis.

Current timing analysis point tools offer only simple distributions of processes and require substantially more workstation memory to handle concurrent analyses.

### Speed and Capacity Breakthrough

On a single CPU workstation, GoldTime demonstrates up to 5X better speed and capacity than current timing analyzers. On multi-processor workstations, the speed improvement scales with the number of processors.

### HIGHLIGHTS

- > Single timing solution for all nanometer process nodes
- > Multi-mode/ multi-corner, SI & statistical timing analysis
- > Patent-pending ThreadWave technology for speed and capacity breakthrough
- > Optimize circuit performance
- > PT-compatible with easy adoption

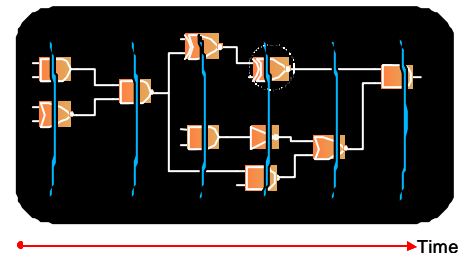


Figure 2. ThreadWave technology decomposes the timing analysis wavefront into multiple threads, for a breakthrough in speed and capacity.

In just a few hours, post-route analysis of designs exceeding 50 million placeable cell instances in size can be completed. This enables quick design improvement and optimization.

Signal-integrity analysis of flat designs that considers interconnect coupling effects—which would overwhelm other analyzers—is now practical with GoldTime. No longer do you need to do hierarchical runs that sacrifice accuracy for speed.

Expensive 64-bit workstations loaded with gigabytes of memory are not required to run analysis with GoldTime.

### Compatibility

GoldTime is a full-featured, PT-compatible timing analysis solution that delivers sign-off level accuracy. Engineered for easy adoption within existing design tool flows, GoldTime accepts all standard data files and produces reports in their standard formats.

### Statistical Timing Analysis

GoldTime performs variation-aware timing analysis when either statistical characterization or statistical extraction data is available. Yield of designs before tape-out can be determined, eliminating unnecessary pessimism or guardbanding. This, plus the fast design optimization and early fixes to variability problems, are the major benefits of GoldTime statistical analysis. And, designers can move at his or her own pace from traditional timing analysis to statistical and parametric analysis using GoldTime. Multiple patents are behind GoldTime technology statistical analysis and makes it the world leader.

### Supported Workstations

GoldTime is supported on 32-bit and 64-bit Linux workstations running RedHat Enterprise 3 or later, as well as LSF and SGE.

### Pricing and Availability

For pricing and availability, please contact Extreme DA. Your local sales representative will respond to your inquiry.

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"We use Extreme-DA's GoldTime as our static timing analysis and timing sign-off tool for our chip designs. We have had 4 tape-outs with it. [For example] our total time to get a timing analyzed design in GoldTime was 1 hr, as opposed to 8 hrs in PrimeTime. GoldTime was efficient enough for us to debug design problems. PrimeTime wasn't.

In addition, GoldTime memory usage maxed at 5.1 GB [versus 13.0GB for PrimeTime]. We can use our cheap computer hardware for STA.

ACCURACY: We selected a subset of timing paths in our designs, and compared GoldTime's delay calculation with SPICE. It was within a 5% spread of SPICE.

CAPACITY: In the timing analysis of our current chips (which are over 5M instances), we do not need to use Interface Logic Macros (ILMs) in order to expedite runs in GoldTime. In PrimeTime, ILM's are essential."

— DeepChip ESNUG 479, Feb. 5, 2009

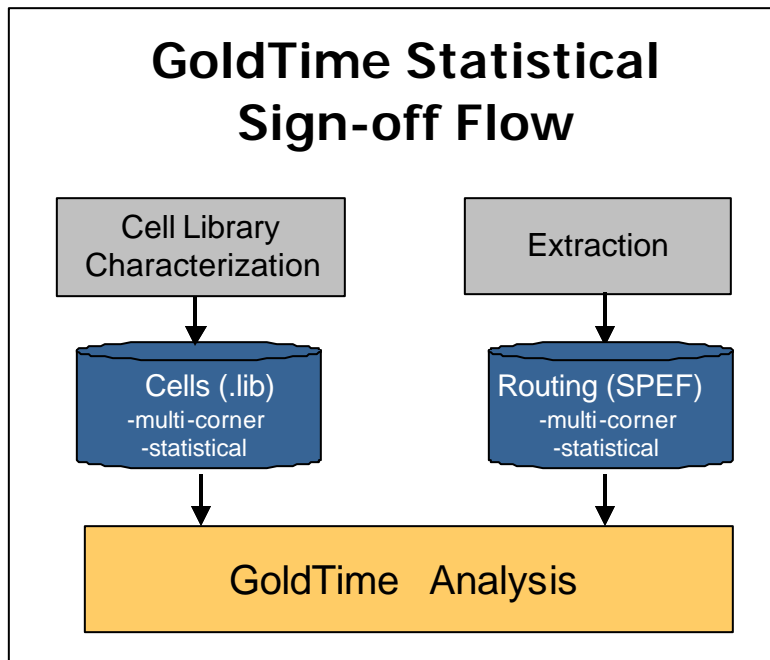


Figure 3. GoldTime performs variation-aware timing analysis when either statistical characterization or statistical extraction data is available.