ISPD 2013 Gate Sizing Contest Benchmark Release Notes

Last Updated: January 9, 2013

Benchmarks (01/09/13 update)

- <u>Jan 9:</u> We release four new benchmarks:
  - fft - 64-point fast Fourier transform using butterfly algorithm
  - matrix_mult – parallel 10x10 matrix multiplication (4 bit integer elements)
  - cordic – fast sine and cosine calculation using CORDIC (coordinate rotation digital computer) algorithm
  - edit_dist – edit distance algorithm for strings of 128 symbols long and 4 bit alphabet
- These benchmarks were generated using Cadence® C-to-Silicon Compiler and Cadence® Encounter Digital Implementation System
- See README file for more details on the benchmarks.
- The benchmarks released earlier (usb_phy, pci_bridge32, des_perf, netcard) are not modified in this release, except for minor modifications in the header comments
- For the final evaluations, we are planning to use a subset of the released benchmarks with some modifications (e.g. different timing constraints and/or parasitics, modifications in the netlists). We may also use additional benchmarks that are not released.

Benchmarks (2012 updates)

- <u>Dec 3:</u> We release one more benchmark as a separate package (netcard.tgz) due to its large size:
  - netcard (982258 cells)
  - CAUTION: size of the archived package is 269Mb
- <u>Nov 19</u>: We release 3 test benchmarks:
  - usb_phy
  - pci_bridge32
  - des_perf
- The benchmarks are based on the ISPD 2012 netlists
- Cadence ® Encounter tool suite was used to place the netlists to generate realistic SPEF data
- It is uncertain whether we will use these benchmarks in the final evaluations.
  - In the event that we use these benchmarks in the final evaluations, the timing constraints and parasitics values will be different.
- More benchmarks will be released by mid-December 2012
- See README file for more details on the benchmarks.

Standard Cell Library

- <u>Nov 19</u>: We release a standard cell library
  - Location: ispd2013/lib/contest.lib
  - The library is identical to the one used for ISPD' 12 evaluations
  - We expect little to no changes in the library in the course of the contest. However, we reserve the right to make further changes as needed.

Parser Helpers

- We are releasing two files: parser_helper.h and parser_helper.cpp to help you extract the relevant data from various file formats.
  - Location: ispd2013/parser_helper/

- Note that these parsers rely on the specific structure of contest benchmarks (e.g. line order, comments, etc.). They are not intended to be used as generic parsers for the corresponding formats.

- The contestants are free to use these parsers as is or make modifications. In any case, it is the contestants' responsibility to make sure that the parsers work as expected.

- ***The code provided here is mostly for description purposes. The organizers cannot guarantee that the provided code is free of bugs or defects.***