

Portland State University
ECE 587/687

Running the SimpleScalar Simulator

Documentation

- Tutorial (hacker's guide)
- Technical report
- Simulator source files are well documented
- Tutorial and technical report are available through the class webpage

Simulator Download Instructions

- Download the following file:
 - ◆ <http://www.cecs.pdx.edu/~alaa/ece587/for-psu-only/ss.tar.gz>
- You need to enter your user name and password
 - ◆ Username: Your last name (in lowercase)
 - ◆ Password: First six digits of your PSU ID
- Save the file to your Solaris home directory
- From your home directory, unpack the file:
 - ◆ `gunzip ss.tar.gz`
 - ◆ `tar xvf ss.tar`
- The file creates a new directory “simulator” in your home directory

Simulator Directories

- Simulator models
 - ◆ simulator/ss3/
- Benchmarks:
 - ◆ SPEC95 binaries: simulator/bench/big/
 - ◆ SPEC95 inputs: simulator/input/ref
 - ◆ SPEC95 outputs: simulator/output/ref
 - ◆ Small tests: simulator/tests
 - Small programs for you to read and understand quickly
 - Source files also available in the same directory

Compiling and Running the Simulator

- Compile SimpleScalar:
 - ◆ From a Solaris machine (e.g., nemo.ece.pdx.edu):
 - `cd simulator/ss3/`
 - `make`
- Run benchmarks:
 - ◆ `cd $HOME_DIR/simulator`
 - ◆ Edit the `$exp_dir` line in `Run.pl` to point to the simulator directory
 - ◆ `./Run.pl -db bench.db -dir results/gcc1 -benchmark gcc -sim $HOME_dir/simulator/ss3/sim-outorder -args "-fastfwd 100000000 -max:inst 1000000" >& results/gcc1.out`
- Benchmarks include: gcc, li, m88ksim, perl, vortex, compress, and jpeg
- Example of running a small test
 - ◆ `$HOME_DIR/simulator/ss3/sim-outorder $HOME_DIR/simulator/tests/bubblesort`