

COMS40115 Exercise 3: Code Coverage (Week 5)

This exercise introduces you to the Code Coverage viewer of the Riviera simulator. It is assumed that you have done the Simulator Tutorial exercise and hence know how to run Riviera without collecting code coverage.

If there are problems, please let me know. Have fun!

Kerstin

Collecting Code Coverage

1. Set up your library as usual. Compile your testbench. When initializing the simulation: Click the Options button. Select the Code Coverage tab. Tick Enable. You get best results if you tick Cover every instance separately. The default output directory for coverage data is the `coverage/` subdirectory of the current working directory. If the output directory does not exist, it is created automatically when coverage results are saved. You can also set the coverage results output directory to a different directory at this stage. By default, coverage results are written to a file named `results.ccl`; this file is the top-level file of the coverage results files. Press OK, and don't forget to initialize the simulation. (Changes will only become effective at the next initialization.)
2. Run the simulation.
3. Under View, select the Code Coverage option. The Riviera Code Coverage Viewer window opens. Under File, click Open. Now open the `results.ccl` file in the output directory for coverage data (either the default directory or the one you've specified). You can investigate the testbench structure (click on a module) and see the total code coverage of this module as well as a detailed analysis of which lines have been executed.

How well have you exercised the calc1 design?

Part of the 2nd assignment is to find out how well the test suites you submitted for the first assignment exercised the calc1 design.

The source code of calc 1 is now available at `/usr/local/vsim/sa/vlib/calc1_black_box/src` on any of our systems (solaris and linux in 2.11, 2.10 and 2.16). Run your tests and measure code coverage.