

File Structure

Overview

This file explains about the file structure for the ATPG system. It gives the overview of what each directory/file contains.

1. **atpg/**

Top level directory for the system.

1.1. **benchmarks/**

Directory for both custom and standard netlist files.

1.2. **bin/**

Directory for compiled programs. These files will normally be replaced every time the source files are compiled.

1.3. **docs/**

Directory for external documentation files.

1.4. **run/**

Directory containing helper scripts for automating running the ATPG system to produce results.

1.5. **src/**

Directory for all the source files for the ATPG system. It should be noted that the source code was written and optimized for UNIX based system. It is therefore not guaranteed to work perfectly in Windows without some portability issues.

1.5.1. **main.c**

The driver source file for the system.

1.5.2. **libs/**

Directory for the source modules and helper source files. These are the modules referenced from the `main.c` driver file.

1.5.2.1. atpg_types*

Defines custom data types/structures used throughout the ATPG system.

1.5.2.2. defines*

Defines system-wise constants. Such values like ATPG version number or maximum input gates for circuit netlists.

1.5.2.3. fault_simulation*

Defines functions that are used to perform circuit's simulations. Functions like the one that generates outputs from a given circuit, given a certain input combination.

1.5.2.4. globals*

Declares system-wise variables. Example a variable containing the custom error message.

1.5.2.5. hash*

Defines helper functions used for hashing.

1.5.2.6. logic_tables*

Defines the Boolean five-valued logic tables and operators. Also the helper functions to manipulate logic tables are defined here.

1.5.2.7. parser_ntelist*

Defines functions that parse a circuit netlist file then build and populate a circuit graph.

1.5.2.8. pqueue*

Defines functions that implement a priority queue used during test generation.

1.5.2.9. ptime*

Defines cross-platform time functions. For instance the functions that time the execution duration of other functions.

1.5.2.10. test_generator*

Defines functions used to perform test generation. From functions used for excitation, propagation, justification and to those that extract a test pattern from a circuit.

1.6. test/

Directory for unit test files. These are source files for testing the source code modules.

1.7. vendor/

Directory for vendor source files and compiled programs.

1.8. AUTHORS.md

File listing the authors who contributed in building the system.

1.9. LICENCE.md

File containing the license declaration for the ATPG system.

1.10. makefile

File containing the make rules for the ATPG system.

1.11. README.txt

Contains the user interface for using the compiled program. This is the same contents that are displayed to the user when requesting help in the command line.

1.12. TODO

No brainer.