Test Report

Rev 1.1

4/23/18

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| Date | Change | Changes made by |
| 4/12/18 | Document created | Matthew Michaels, Reagan Craddock, Milton Griffin, Michael Farden, Matthew Strenk |
| 4/23/18 | Revision with to add test data | Matthew Michaels |

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# **Test Plans**

## Simulation Type Selection Test

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **Test Writer:** Matthew Michaels | | | | | | | |
| **Test Case Name:** | | Simulation Type Selection Test | | | | **Test ID #:** | P1-STS1 |
| **Description:** | | This test verifies that the user has the ability to choose between the multiple simulation types | | | | **Type:** | Black Box |
| **Dependencies:** | | None | | | | | |
| **Tester Information** | | | | | | | |
| **Name of Tester:** | | Matthew Michaels | | | | **Date:** | 4/10/18 |
| **Software Ver:** | | 1.0.0 | | | | **Time:** | 1:20 PM |
| **Setup:** | | Python wrapper script is running and ready to accept user input | | | | | |
| **Step** | **Action** | **Expected Result** | **Pass** | **Fail** | **N/A** | **Comments** | |
| 1 | Enter in 1, 2, 3, 4, or 5 | The command window should tell you what kind of simulation you are now running | x |  |  | Simulator provided all acceptable input options | |
| 2 | Wait for program to restart, or simulation to finish | Program either finishes the simulation, returns the results, and prompts user for a new simulation or will restart if incorrect input was given | x |  |  | Program return the results of the simulation including time, addresses, etc. and restarted | |
| 3 | Relaunch script if necessary | Script reopens or skip this step if not necessary | x |  |  |  | |
| 4 | Repeat steps 1 through 3 again, but chose a different number from 1, 2, 3, or 4 every time until you’ve used each number once. | See results for 1-3. Assuming all possible input values give the expect results, the simulation selection is working properly. | x |  |  | Same results as steps 1 and 2 | |
| **Overall test result:** | | | x |  |  |  | |

## Verification of User Input Test

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Test Writer:** Michael Farden | | | | | | | |
| **Test Case Name:** | | Verification of User Input Test | | | | **Test ID #:** | P1-VUI1 |
| **Description:** | | This test verifies that the user input is valid | | | | **Type:** | Black Box |
| **Dependencies:** | | Test P1-STS1 | | | | | |
| **Tester Information** | | | | | | | |
| **Name of Tester:** | | Michael Farden | | | | **Date:** | 4/10/18 |
| **Software Ver:** | | 1.0.0 | | | | **Time:** | 1:20 PM |
| **Setup:** | | Python wrapper script is running and ready to accept user input | | | | | |
| **Step** | **Action** | **Expected Result** | **Pass** | **Fail** | **N/A** | **Comments** | |
| 1 | Enter 1, 2, 3, or 4 | The program runs the simulation corresponding to the entered option. | x |  |  | Program ran corresponding simulation | |
| 2 | Enter a character other than 1, 2, 3, or 4 | The program displays a message stating that the user did not enter a valid option. The program then prompts the user to try again. | x |  |  | Enter in symbols, letters, and mix of numbers symbols and letters across multiple tries to verify that all scenarios were covered | |
| **Overall test result:** | | | x |  |  |  | |

## Multi-Thread Test

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Test Writer:** Reagan Craddock | | | | | | | |
| **Test Case Name:** | | Multi-thread test | | | | **Test ID #:** | P1-MT1 |
| **Description:** | | This test verifies whether or not the processes are split between cores | | | | **Type:** | Black Box |
| **Dependencies:** | | 3.1, 3.2 | | | |  |  |
| **Tester Information** | | | | | | | |
| **Name of Tester:** | | Reagan Craddock | | | | **Date:** | 4/10/18 |
| **Software Ver:** | | 1.0.0 | | | | **Time:** |  |
| **Setup:** | | Simulator is called from .bat file with set CPU affinities | | | | | |
| **Step** | **Action** | **Expected Result** | **Pass** | **Fail** | **N/A** | **Comments** | |
| 1 | Pass input from .py script to .bat file | The .py passes inputs successfully | x |  |  | Use line “os.system("fullSim.bat hash")” to launch batch script with input as “hash”. Hash simulation launches | |
| 2 | The simulator runs the correct simulation without error | The simulator does not log any error message | x |  |  | Error error received is “'.' is not recognized as an internal or external command,  operable program or batch file.” which doesn’t effect the simulation | |
| 3 | The simulator runs on CPU0 and CPU2 | The load on CPU0 and CPU2 in Window’s Resource Manager shows similar activity on each thread | x |  |  | Can see high usage on the first thread on cores 1 and 2 | |
| **Overall test result:** | | | x |  |  |  | |

## Return Results Test

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Test Writer:** Matthew Strenk | | | | | | | |
| **Test Case Name:** | | Returns Results Test | | | | **Test ID #:** | P1-RR1 |
| **Description:** | | This test verifies that results are returned when the user runs the program | | | | **Type:** | Black Box |
| **Dependencies:** | | Test P1-STS1 | | | |  |  |
| **Tester Information** | | | | | | | |
| **Name of Tester:** | | Matthew Strenk | | | | **Date:** | 4/10/18 |
| **Software Ver:** | | 1.0.0 | | | | **Time:** | 1:10 PM |
| **Setup:** | | Python wrapper script is running. | | | | | |
| **Step** | **Action** | **Expected Result** | **Pass** | **Fail** | **N/A** | **Comments** | |
| 1 | Input ‘1’ when prompted and wait for program to finish running. | Outputs expected output for a hash benchmark. | x |  |  | Returns time, reads, writes, min/max address, and multiplers for cache and scratchpad | |
| 2 | Restart program. Input ‘2’ when prompted and wait for program to finish running. | Outputs expected output for a heap benchmark. | x |  |  | Returns time, reads, writes, min/max address, multiplers, addresses, and strides for cache and scratchpad | |
| 3 | Restart program. Input ‘3’ when prompted and wait for program to finish running. | Outputs expected output for a stride benchmark. | x |  |  | Returns time, reads, writes, min/max address, and strides for cache and scratchpad | |
| 4 | Restart program. Input ‘4’ when prompted and wait for program to finish running. | Outputs expected output for a trace benchmark. | x |  |  | Returns time, reads, writes, min/max address, multiplers, addresses, and strides for cache and scratchpad | |
| **Overall test result:** | | | x |  |  |  | |

## Conclusion

Every one of the test cases passed for our product. This shows that our product was created well, and should not give users any issues at all when being run. There are some legacy bugs in the memory simulator itself, but the bugs either do not cause any issues to the user or can’t be accessed by the user due to how the wrapper was created.