Assignment 4 Report

CMPT – 431

Joshua Campbell - jkcampbe@sfu.ca

Adam Penner – adpenner@sfu.ca

Settings: TRYRACE not defined, red rate: 1000000, blue rate: 1000000, 10 rounds

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| --- | --- | --- |
|  | Red Success / Second | Blue Success / Second |
| RogueCourse | 7436.26 | 6674.86 |
| RogueCourse2 | 4488.54 | 4958.68 |
| RogueFine | 7551.24 | 6802.72 |
| RogueFine2 | 4187.02 | 5116.87 |
| RogueTM using RTM | 7441.02 | 7048.62 |
| RogueTM2 using RTM | 5668.26 | 6262.11 |
| RogueTM using HLE | 7662.08 | 8017.21 |
| RogueTM2 using HLE | 4196.49 | 5675.51 |

Settings: TRYRACE defined, red rate: 1000000, blue rate: 1000000, 10 rounds

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| --- | --- | --- |
|  | Red Success / Second | Blue Success / Second |
| Rogue Unprotected | 184.684 | 5135.97 |
| RogueCourse | 173.211 | 321.722 |
| RogueCourse2 | 325.057 | 692.636 |
| RogueFine | 168.128 | 312.235 |
| RogueFine2 | 225.759 | 333.939 |
| RogueTM using RTM | 70.028 | 6343.85 |
| RogueTM2 using RTM | 62.7963 | 2970.64 |
| RogueTM using HLE | 153.105 | 198.822 |
| RogueTM2 using HLE | 314.089 | 481.71 |

Observations with TRYRACE not Defined

First observation is the difference between setting two lanes at once versus setting only one lane through various methods. Setting two lanes at once was always slower for one reason in which we had to search until we had two lanes that were both white and try to lock both of those lanes. If after locking the lanes aren't the same colour as before, we would have to try again to get two new white lanes. This act of needing two perfect lanes slows the success rate down by **20-30 percent**. By trying to get two new lanes instead of holding onto the one good one lane and finding another, we prevent deadlock situations. Such a situation would arise where there are only two lanes left, and each thread has one of those lanes and needs another to complete the call.

From the data above we also note the steady increase in cumulative success rate when dealing with single shot instances.

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|  | Cumulative Rate / Second |
| RogueCourse | 14,111.12 |
| RogueFine | 14,353.96 |
| RogueTM using RTM | 14,489.64 |
| RogueTM using HLE | 15,679.29 |