PERFORMANCE ANALYSIS

In this section is presented an analysis of the performance for the virus spreading simulation. Every table presented refers to a computation done with different configurations in term of hosts, number of cores, individuals and number of regions.

The data is the time needed to end a day computation.

The computation is done with the following arguments:

* velocity: 0.5 m/s
* spreading distance: 2 m
* updating interval: 4 s

**SINGLE HOST - 4 REGIONS**

|  |  |  |
| --- | --- | --- |
|  | 1 core | 2 cores |
| 10 individuals | 0.029 s/day | 0.042 s/day |
| 50 individuals | 0.196 s/day | 0.178 s/day |
| 100 individuals | 0.316 s/day | 0.308 s/day |
| 500 individuals | 2.66 s/day | 2.056 s/day |
| 1000 individuals | 4.75 s/day | 3.545 s/day |

**SINGLE HOST – 100 INDIVIDUALS**

|  |  |  |
| --- | --- | --- |
|  | 1 core | 2 cores |
| 4 regions | 0.316 s/day | 0.308 s/day |
| 16 regions | 0.360 s/day | 0.401 s/day |
| 100 regions | 1.176 s/day | 0.790 s/day |
| 500 regions | 5.235 s/day | 2.333 s/day |

**TWO HOSTS - 1 CORE PER HOST**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | 10 individuals | 50 individuals | 100 individuals | 500 individuals | 1000 individuals |
| 4 regions | 22.06 s/day | 22.3 s/day | 22.85 s/day | 25.28 s/day | 27.45 s/day |
| 16 regions | 22.5 s/day | 22.8 s/day | 23.56 s/day | 26.32 s/day | 28.18 s/day |
| 100 regions | 23.03 s/day | 23.65 s/day | 23.89 s/day | 27.06 s/day | 30.89 s/day |