SCAN-based algorithm on CUDA

Below are the results of the various versions of the inclusive scan by looking at the differences between the serial version using the CPU, the GPU version, and the implementation made through the Thrust library. Scenarios with different numbers of elements have been proposed to observe the variation in time that occurs. In addition, for the GPU version, results are presented from testing with different block sizes to see if there is any significant time difference.

	Number of elements					
	10	512	1024	262144	524288	1048576
CPU	0,002	0,006	0,003	0,83	1,65	3,28
GPU Block size 2	0,04	0,021	0,023	0,02	0,02	0,02
GPU Block size10	0,021	0,02	0,021	0,025	0,021	0,021
GPU Block size256		0,02	0,02	0,024	0,02	0,022
GPU Block size512		0,021	0,02	0,024	0,024	0,021
GPU Block size1024			0,021	0,023	0,024	0,024
Thrust	0,048	0,042	0,042	0,055	0,22	0,24

As can be seen in the results obtained, it can be clearly seen that as the data to be processed grows, the CPU version has significantly higher associated times than the other versions. On the other hand, the version using the Thrust library has times close to the GPU version, but without making a big increase as the elements increase. Finally, the direct implementation on the GPU gets the best times, noting that the difference between different block sizes is almost non-existent.