Matrix

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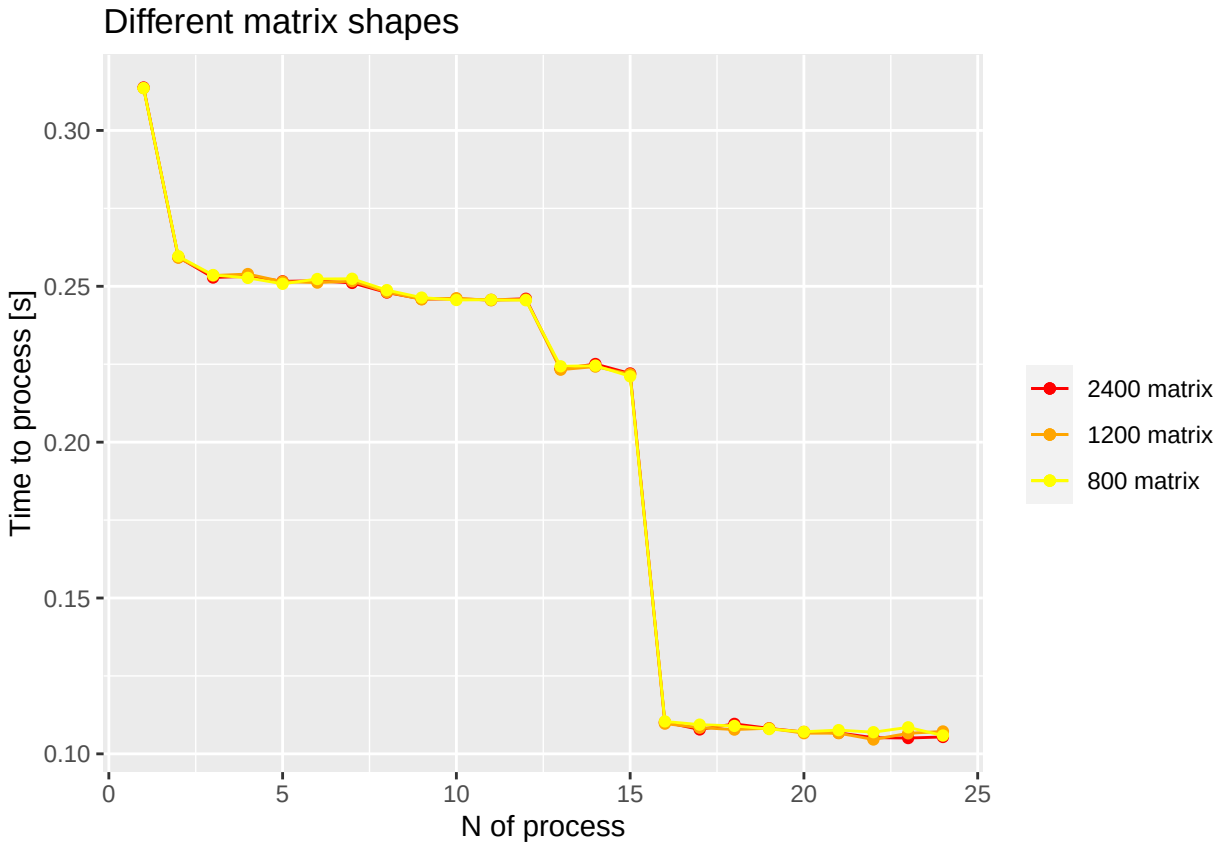
29/12/2021

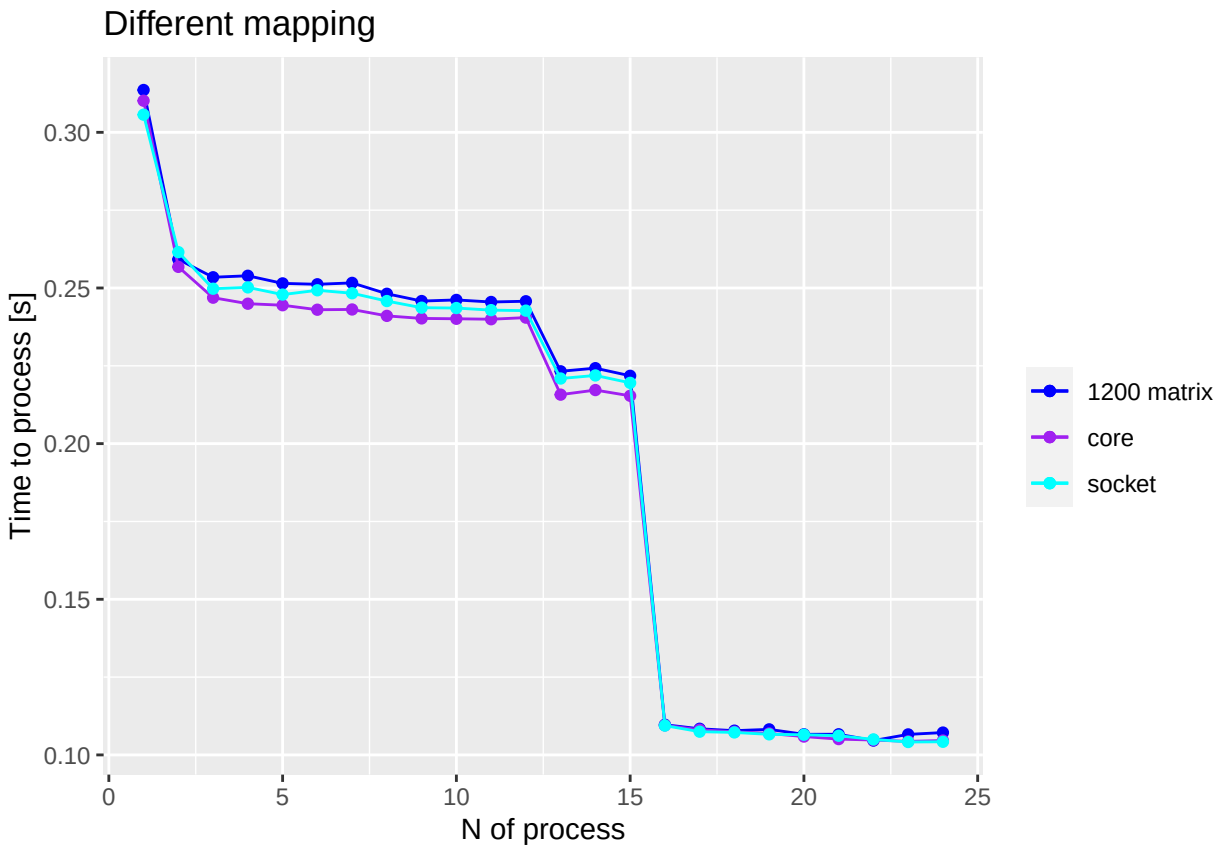
SECTION1 (Matrix)

The matrix is initialized with random number and, after building the topology, that is always (s, 1, 1) as s the numbers of processes, the matrix is first divided and then sent to all the processes. So, each process computed a part of the matrix, that is exactly the shape of the matrix $(x * y * z)$ divided by the number of processes.

I produce two different plots: one that represent the time to compute the matrix-matrix sum for different shapes and one with the same shape but with different mapping.



In this graph, we can see that if we use different shapes, that are 2400x100x100 (red), 1200x200x100 (orange) and 800x300x100 (yellow), the time to sum the matrix is always the same, even using multiple processes.


Different mapping
Time to process [s]
0.30
0.25
0.20
0.15
0.10
0
5
10
15
20
25
N of process
1200 matrix
core
socket