Results

Paradigm	Number of Threads	Number of Workers	Size of Matrix	Time
Sequential	1	N/A	10	41 microseconds
Parallel	12	N/A	10	7822 microseconds
OpenMP	12	N/A	10	62 microseconds
MPI	1	12	10	4501 microseconds
MPI/OpenMP	12	12	10	692819 microseconds
MPI/OpenCL	12	12	10	655465 microseconds

Summary

The parallel versions of the matrix multiplication program are slower. This is due to the nature of the programs. Some of them are networks such as in the case of the MPI versions. It takes more time to transmit the data across a network, which leads to performance overhead. In the case of the non-networked versions (i.e.: OpenMP and parallel), the overhead theoretically comes from the CPU scheduler needing to delegate threads to a specific task, which is less resource intensive than the program itself. This makes the sequential program the fastest version of the program.