ABSTRACT

Along with advances in computer technology as a solution to the need of a growing problem faced due to the assumption that computing is considered to be faster in solving a problem than the manual way. Therefore needed a fast computational process, one solution is to parallel computing in which computing is done simultaneously by utilizing multiple independent computers simultaneously which is commonly used when a very large capacity required to process large amounts of data as well. This solution becomes an option for sequential computing has many limitations. Matrix multiplication is a complex problem if ordenya has reached thousands and using the sequential completion will take a long time.

Matrix solution method used is the conventional method and Strassen. Conventional methods are created, implemented using MPI (Message Passing Interface) on a computer with a number of different processes for each trial-order matrix. Strassen method is created by partitioning the matrix into submatrices each of size 2x2.

From the experimental results, for the order of 1024x1024 matrix multiplication, Strassen method is slower 88.32% and use 35% more memory than conventional methods. For the order of 2048x2048 matrix multiplication, Strassen method is slower 84.8% and use 49.13% more memory than conventional methods.

Key words: matrix, conventional method, Strassen method, MPI