



The School of Technology

BSc (Hons) Computing Software Development (Batch 001 – October 2018)

MPI base password cracker

6CS005

Assignment

Kesara Wimal (UoW ID: 1827994)

Module Leader: Mr. Rajeewa

Submission Date: 23rd January 2020

**Time consumed to run encrypt-26-03 using 1, 2, 4, 8 remote nodes**

|  |  |
| --- | --- |
| Number of Remote nodes | Time consumed |
| 1 | 1.40099s |
| 2 | 0.70262s |
| 4 | 0.37062s |
| 8 | 0.15911s |

**Summarization**

The Message Passing Interface Standard (MPI) is a message passing library standard based on the MPI Framework agreement that has over 40 participating organizations, including manufacturers, academics, app library developers and consumers. The goal of the Message Passing Interface is to establish a portable, efficient and flexible message passing standard that will be widely used for the writing of message passing programs. As such, MPI is the first standardized, vendor-independent, library-transmitting message. The advantages of developing MPI-based messaging software closely match the design objectives of portability, efficiency and flexibility. MPI is not an IEEE or ISO standard but, in addition, has become the "industry standard" for writing messages on HPC platforms that transfer programs.

Our task was to set up remote servers to run this password cracking application and connect all these servers via MPI. It wasn’t a very easy task to do so. But happily, we are able to complete this task within a given time period. With the above chart, we can clearly see that how time differentiates with the number of remote nodes. Every time we adding another remote node or another process time is getting reduced. We tried with 1, 2, 4 and 8 remote nodes. All this research and experience we get to know how efficient to use MPI when we are dealing with a big data set.