THESIS REPORT

PARALLELIZATION USING PARALLEL VIRTUAL MACHINE (PVM)

NORIKHTI FAQRIAH BT AZIME

CS 225

BACHELOR OF SCIENCE (HONS)
DATA COMMUNICATION & NETWORKING

FACULTY OF INFORMATION TECHNOLOGY & QUANTITATIVE SCIENCE
UNIVERSITI TEKNOLOGI MARA
MAY 2006

ACKNOWLEDGEMENT

In the name of Allah, The Almighty, The Most Gracious and The Most Merciful. All praise to Allah, for all the bless he gave.

First and foremost, I would like to express my appreciation to Pn Norkhushaini bt Awang for being a good supervisor for this thesis project which is actually focusing on parallelization using PVM. Thank you very much for your offer for such a nice topic that could help me in value adds my knowledge in Linux. I must admit that this project impresses me and I believe it will come in useful especially in my future career wise. I really enjoyed the time we have spent together during the discussion session and not forgotten her valuable ideas and opinions towards this project to be accomplished.

Besides that, my special thanks also go to my examiner Pn Shapina bt Abdullah for her guidance in my report writing.

Other than that, I would also like to extend my deepest appreciation to my family especially my parents for their supports in term of spiritual, budget and useful advice which assist me in completing this thesis project. I am very lucky to have such wonderful and understanding parents who always encourage me with their supportive advices.

Last but not least, I also like to express my greatest attitude especially for those who had involved in contributing their time, efforts, and knowledge which eventually led me until this end point.

ABSTRACT

Parallelization is a process where the tasks can be distributed using Master and Slave paradigm. Parallel Virtual Machine (PVM) is a software infrastructure that emulates a generalized distributed memory multiprocessor in heterogeneous networked environment. It is an open source program which provides the capability for using a number of networked (TCP/IP) machines as a parallel virtual machine to perform the tasks. The purpose of this thesis project is to study the PVM and its significance to the users after using the software. Some researches about PVM itself have been retrieved through some books, journals, articles and also some valuable information from others. After that, the information was then divided into several parts which consist of the PVM background, PVM implementation and also its significance to the users. The second objective is to compare the time consuming of matrix calculation before and after using the PVM. Based on the findings, it is recommended to use more than two slaves in order to have a great difference of time consuming to perform the calculation. Since this project is fully tested on Linux platform, so it is suggested that the future researcher who will be continuing this project in depth may consider using multi platform such as Windows, Sun Solaris and Linux. In brief, we know that the implementation of PVM can benefits both the students as well as the lecturers other can give some contribution to the faculty generally.

LIST OF CONTENTS