ABSTRACT

For the last 10 years, the computers evolution has been changed drastically both software and hardware. On the hardware side, the development is concentrated on "Multi-processor", a scheme which more than one CPUs are working together to perform an assigned task. This kind of development is expected to continue in a foreseeable future. Although it is still expensive to implement, we still can use this multiprocessor scheme to improve the efficiency of a computer system. Another alternative is to use parallel processing (parallel processing is a_process that utilizes a number of processor(s) to compute many processes in the same time) to increase the above efficiency. This thesis will emphasis on the development of multi-processor and task distribution networking to improve the processing speed and task distribution on a group of Clients and Server. The task distribution will reduce the workloads of master Server and distributed them to the Clients.

The researcher have experimented the performance of the parallel and distributed systems by using algebra such as +, - , x and / however they were not working because they were far too fast to check the performance time between clients and server. Then I decided to use the polynomial function to operate this experiment.

The data were collected by the experiment which operate with 80 clients in Sripatum University Computer Lab Center. This distributed computing using polynomial function has been designed to study and evaluate the principle of distributed computing.

The researcher designed a communication TCP/IP protocol as a layer that provides communication procedures for parallel and distributed system.

The result shows Par Power or price- performance compares with 8 clients indicates the excellent performance. Gain compares the speed up between server and client as the number of clients increase, the performance gain increase.

The research concludes that researcher realized the need to develop an application to improve the performance of computer systems that would increase the efficiency of Gain for the running of multi applications and application types.

ASSUMPTION UNIVERSITY OF THAILAND
BROTHERS of ST GABRIEL
LABOR VINCIT
OMNIA
SINCE1969
มหาวิทยาลัยอัสสัมชัญ