Computing and Information Grid Development in Thailand

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Grid projects are continuously developed in Thailand. Thai National Grid Project (TNGP) actively leads the community by organizing trainings and workshops to promote the understanding and acceptance of Grid computing technology. It also forms a Grid computing network with member institutions and provides computing resources for research and industrial work. More details about TNGP are in a separate report.

National Electronics and Computer Technology Center (NECTEC) also continues its effort in building computing infrastructure for computational science and engineering. Grid computing technology is considered as a viable solution. NECTEC, therefore, has focused in developing and deploying Grid infrastructure. In this talk, I will update NECTEC's activities in Grid Computing technology as follows: (i) Grid services test bed and experiments on Grid related technology. In the past year, NECTEC has implemented the grid services test bed based on WSRF specified by Globus Toolkit 4. Experiment on Grid related technology, on the other hand, has been investigated with respect to the implementation of virtualization Cluster and Grid, based on Xen virtualization software; (ii) The improvement of performance in the parallel applications on Cluster and Grid environments. In this study, we investigated the performance of a parallel application implemented with the Global Arrays toolkit on cluster and Grid computing environments as well as comparison of performance of the same application implemented with MPI library; (iii) NECTEC GOC CA. The operation of NECTEC GOC CA has been started from the past year. Particularly the user/host certificates have been issued for the above projects; and finally (iv) Information Grid. The development of information services and information brokers is ongoing with the goal that a result should be returned to a client in either a synchronous or an asynchronous manner to reflect the client's need. In addition, an Information Grid Client API is being developed to conceal the complexity of an Information Grid itself and hence to promote its application. By the end of this year, these two components along with MDL instances and API will be evaluated with respect to information in the library domain. Essentially, two issues will be evaluated: (a) the development of one search engine across library repositories with the application of Information Grid. Particularly, the qualified efficiency for such development is compared against traditional development as well as existing technologies; and (b) the capacity of Information Grid. Here, its performance as well as its correctness in term of precision and recall would be quantified.