Abstract

E-learning has become widely known method for delivering the lecture. However, several drawbacks occur in the current e-learning platform. For example, the client-server architecture platform will create a problem when the numbers of work load increase. Thus, we introduce the use of grid computing to solve the current problems in e-learning. The purpose of this thesis is to study the effectiveness of using grid computing to support e-learning.

To measure the effectiveness of using grid computing for e-learning, we defined several criteria for it. The criteria are affordability, availability, security, scalability, response time, and interface. Then, we will choose the solution that applicable toward those criteria. Since, we do not do a real implementation; we pick the other people’s solution which they had already implemented grid computing to support e-learning. They use Data Grid as their education grid. Then, we compare the Data Grid to the other solution of grid computing for e-learning based on those criteria.

The output of this thesis is the applicability of those criteria to the Data Grid. In Data Grid, it is able to integrate idle computer resources to complete the task. With this technique, we are able to save the cost for investing in hardware and infrastructure. Almost all criteria are applicable to the Data Grid solution.

The implementation of grid computing could solve the current problems in e-learning. To have an obvious result of the effectiveness of using grid computing for e-learning, we need to do an actual implementation and have more resources. We also need to consider the human resource aspect in order to use grid computing for e-learning.

Keywords: E-learning, Grid Computing, Data Grid.