Abstract

As our road go ahead to e-communications and information age, availability of scholarly material in e-format become increasingly important. Having an Electronic-Theses and Dissertations (E-TD) system enables students to share their research knowledge world-wide, theses to be retrieved from anywhere at anytime, enhanced administration and control, improved response, reduced cost and improved profitability.

This project aims to study the implementation of data grid technology in E-TD system. The E-TD system is based on the Storage Resource Broker (SRB) client-server data grid middleware and allows users to access location-independent data: users do not need to know where files are located and how they are stored. The aim of using SRB data grid is to extend the concept of resource sharing to support high performance computing at a global scale. The SRB provides a storage repository abstraction for transparent access to multiple types of storage resources. The SRB, in conjunction with the Metadata Catalog (MCAT) provides a way to access data sets and resources on their attributes rather than their names or physical locations.

Besides, semantic web technology is also incorporated. The semantic web technology provides the ability to characterize relationships between named entities of the domain. Normally, a lot of time and effort is wasted in searching for all of the available information about theses from the database. The effective search and browse services are one of the most important goals of E-TD systems. For example, if you were searching theses related to Unit Testing, you might also want to find the theses related to all the terms that are related to Unit Testing. This can be fulfilled by using ontology which can formalize to describe the semantics. The software testing ontology is implemented and searching service is improved with ontology-based searching mechanism in this system.
The E-TD Repository System in this study archives Computer Science (Software Engineering) theses and dissertations. All in all, the incorporation of data grid and semantic web technology helps to produce an E-TD system which is more scalable and efficient in searching of theses.
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Shwe Yee Than