

Using Grid Computing for Effective Information Querying over Large Scale Distributed Databases

Nyein Aye Maung Maung¹, Nyein Nyein Oo², Myo Hein Zaw³

^{1,2}*Department of Information Technology, Mandalay Technological University, Mandalay, Myanmar (email:nyeinaayemm@gmail.com)*

³*University of Computer Studies, Monywa, Myanmar (mheinzaw@gmail.com)*

Abstract- A vast amount of datasets resides in relational databases at institutes, enterprises, government agencies and organizations. The growing number of large knowledge bases necessitates developing techniques that enable the sharing of and a cooperative scheme for accessing massively distributed, heterogeneous databases, managed by several research institutions. Grid computing has emerged as an important new field, distinguished from conventional distributed computing by its focus on large-scale resource sharing, innovative applications and, in some cases, high-performance orientation. In this paper, we examine how databases can be integrated into Grid environments through the use of existing Grid middlewares and present our proposed database sharing system to promote effective information querying over large scale distributed databases. The proposed system architecture has three main parts: data provider layer which contains several distributed database management systems; Data Grid infrastructure which allows federation of geographically distributed databases into the Grid and provides users with secure and easy access to these databases; and a user interfacing Grid portal from which each user can submit queries easily via a web browser.

Keywords— Grid computing, Data Grid, OGSADQP, OGSA-DAI