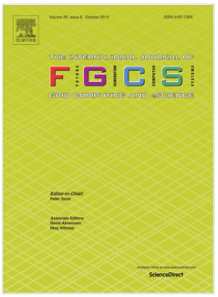
Accepted Manuscript



An optimization-based adaptive resource management framework for economic Grids: A switching mechanism

Aminul Haque, Saadat M. Alhashmi, Rajendran Parthiban

PII: S0167-739X(14)00216-7
DOI: http://dx.doi.org/10.1016/j.future.2014.10.022
Reference: FUTURE 2645

To appear in: *Future Generation Computer Systems*

Received date: 30 June 2012
Revised date: 9 October 2014
Accepted date: 23 October 2014

Please cite this article as: A. Haque, S.M. Alhashmi, R. Parthiban, An optimization-based adaptive resource management framework for economic Grids: A switching mechanism, *Future Generation Computer Systems* (2014), http://dx.doi.org/10.1016/j.future.2014.10.022

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

*Manuscript
Click here to view linked References
ACCEPTED MANUSCRIPT

An Optimization-based Adaptive Resource Management Framework for Economic Grids: A Switching Mechanism

Aminul Haque[*a], Saadat M Alhashmi[b] and Rajendran Parthiban[c]

[a,*]*Department of Computer Science & Engineering, Daffodil International University, Dhaka, Bangladesh*

[b]*College of Engineering and Computer Science, Abu Dhabi University, UAE*

[c]*School of Engineering, Monash University Malaysia, Jalan Lagoon Selatan, Bandar Sunway, 46150, Selangor Darul Ehsan, Malaysia*

saadat.alhashmi@adu.ac.ae[b]

rajendran.parthiban@monash.edu[c]

[*]*Corresponding author*
Phone: +80 (0) 0712285212, aminul.cse@daffodilvarsity.edu.bd

Abstract. The application of Grid computing has been broadening day by day. An increasing number of users has led to the requirement of a job scheduling process, which can benefit them through optimizing their utility functions. On the other hand, resource providers are exploring strategies suitable for economically efficient resource allocation so that they can maximize their profit through satisfying more users. In such a scenario, economic-based resource management strategies (economic models) have been found to be compelling to satisfy both communities. However, existing research has identified that different economic models are suitable for different scenarios in Grid computing. The Grid application and resource models are typically very dynamic, making it challenging for a particular model for delivering stable performance all the time. In this work, our focus is to develop an adaptive resource management architecture capable of dealing with multiple models based on the models' domains of strengths (DOS). Our preliminary results show promising outcomes if we consider multiple models rather than relying on a single model throughout the life cycle of a Grid.

Keywords: Grid computing; Economic models; Domains of Strengths; Switching; Optimization

ACCEPTED MANUSCRIPT

Download English Version:

https://daneshyari.com/en/article/6873522

Download Persian Version:

https://daneshyari.com/article/6873522

Daneshyari.com