

Performance-and economisation-Oriented Scheduling techniques for managing applications with QoS demands in grids

許慶賢, Tai-Lung Chen

Computer Science & Information Engineering

Computer Science and Informatics

chh@chu.edu.tw

Abstract

The development of high-speed network technology, coupled with ever increasingly enhanced computing power and storage capacities, have spawn a new distributed computing paradigm, grid computing. With the emergence of grid technologies, the problems of job scheduling and resource management in heterogeneous systems have been arousing attention. In this paper, we present performance- and economisation-oriented scheduling techniques for managing applications with Quality of Service (QoS) demands in grid. On the basis of the QoS Min-Min algorithm, two optimisation algorithms are proposed in this study. The experimental results show that the proposed techniques provide noticeable improvements in terms of performance and economy for grid applications with QoS demand.

Keyword : distributed computing; grid computing; QoS; quality of service; job scheduling; resource management.