Fault Tolerance Policy on Dynamic Load Balancing in P2P Grids

Tian-Liang Huang,Tian-An Hsieh,Kuan-Chou Lai,Kuan-Ching Li,許慶賢,Hsi-Ya
Chang
Computer Science & Information Engineering
Computer Science and Informatics
chh@chu.edu.tw

Abstract

The robust availability of resources in distributed
computing environments is a very important issue. In general,
the resources are distributed among geographical distributed
sites resulting in the higher failure probability. Therefore, this
paper proposes a fault tolerance policy on dynamic load
balancing in P2P grids to improve the dynamic availability of
resources. This proposed policy duplicates jobs in different
computing nodes to avoid job or hardware failure. In the
meantime, the proposed fault tolerance policy also considers
the load balancing among different computing nodes while
keeping the stable job turnaround time. Therefore, the
proposed policy could improve the system performance in a
varying environment. Experimental results show that the
proposed policy could achieve a better job completion rate as
the failure rate increases.

Keyword：P2P Grid