

Abstract

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A modified Diffusion Load Balancing Algorithm Employing Mobile Agents

The escalating complexity and mobility of today's networks has led to the increased application of mobile agent paradigm. This paradigm helps to alleviate bandwidth limitations and supports disconnected operations that are both significant problems in wireless and mobile environments. On the other hand, load balancing is one of the important problems of computer heterogeneous networks. To address this problem, many centralized approaches have been proposed in the literature but centralization has proved to raise scalability tribulations. In this work, we present a decentralized algorithm for diffusion dynamic load balancing based on mobile agent paradigm. We introduce the architecture of three types of agents employed to meet the requirements of the proposed diffusion load-balancing algorithm. We suggest a packet format for each type of agent as a data communication packet. Afterwards, we explain the different components of the simulator that we have developed to verify the effectiveness of the algorithm. Finally, the simulation results are discussed and a brief conclusion is provided.