

# Implementation of a Green Power Management Algorithm for Virtual Machines on Cloud Computing

Chao-Tung Yang, Kuan-Chieh Wang, Hsiang-Yao Cheng, Cheng-Ta Kuo, 許慶賢

Computer Science & Information Engineering

Computer Science and Informatics

chh@chu.edu.tw

## Abstract

With the development of electronic of government and business, the implementation of these services are increasing the demand for servers, each year a considerable number of the procurement server and out of the server are too old to provide better service. However, due to the speed of the server out of nowhere near the rate of increase, the continued expansion of the server, on behalf of our need to prepare more space, power, air conditioning, network, human and other infrastructure. Derived from these costs, long years, the often less than the purchase price of the server. And the provision of these services is actually quite energy-intensive, especially when the server is running at low utilization, the making idle resources, waste, which is caused by the energy efficiency of data centers the main reason for the low. Even in a very low load, such as 10% CPU utilization, the total power consumption is more than 50% in the peak. Similarly, if the disk, network, or any such resource is the bottleneck, it will increase the waste of other resources. The “Green” became a hot key

word recently. And we aimed the topic and proposed power management approach with virtualization technology.

Keyword : Green Computing