

Satit Chinprasertsuk 2014: Methodology for Analyzing Power Model of Virtual Machines in Cloud Computing. Master of Science (Computer Science), Major Field: Computer Science, Department of Computer Science. Thesis Advisor: Mr. Sethavidh Gertphol, Ph.D. 71 pages.

Cloud computing has potentials to reduce energy consumption cost for the providers by intelligently allocating virtual machines to energy efficient servers. This paper proposes a new method to create an energy model that describes a direct relationship between resource utilization in the VM and the energy consumption by the host. With the model it is possible to estimate how much energy a server will consume if it accommodates a specific number of VMs, each with a specific resource utilization. This work also investigated the power consumption of a server when different combinations of VMs with different utilization are running on it. The result shows that the energy consumption varies non-linearly with the number of VMs allocated on that host.

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