

Awareness of energy consumption in cloud data centers: a survey on employee engagement in energy management

ABSTRACT

The processing demand for high-performance application has increased adoption of Cloud computing among organizations. Such increment in Cloud usages has made Cloud data center incur high energy consumption due to high processing capacity that needed for longer time. It leads to several affect such as emission of heat, high carbon dioxide released and elevation of energy cost. Therefore, it is important to ensure the Cloud data centers are really have a good energy management policies and rules in the organizations. In respect to that, the organization needs to prepare their employees for realization of efficient energy consumption. In this work, a survey is conducted in the form of questionnaires that distributed to employees who have responsible for operating the Cloud data center. This survey aims to analyze level of awareness and satisfaction of energy management scopes such as technique, policy, auditing, and training that managed in the organization. It covers two main factors are the employee's roles and years of experience. The result shows that there is a significant increase of awareness in efficient energy management for operating the data center. Meanwhile, there is diverse feedback in satisfaction level of employees towards energy policy and training provided in the organization. Most of the respondents with higher roles and long experiences shown better awareness level and satisfaction against the specified energy management scopes.

Keyword: Cloud data center; Energy awareness; Energy Management; Survey on employee role