

Cloud Computing Model For Enhanced Resource Usage In Multi-Tenant Application Environment.

Abstract.

Cloud computing technology is built on the concept of virtualization to facilitate resource sharing among many cloud tenants. Due to this attractive feature of the cloud, many organizations and institutions are adopting this technology. Cloud users entrust their resources, hardware, and software to cloud service providers to facilitate sharing, which is the main objective of cloud technology. However, fair allocation of these resources is considered a problem as users don't realize optimal use of these resources, ensuring equitable sharing and allocation of resources. The purpose of this paper is to simulate results, built, and test a model for resources used in cloud computing multi-tenant application environments. Experimental and design science research designs were used. Data was extracted via simulated results and outputs. The complementary data was collected through focus group discussion, thinkaloud- protocol, and questioning protocol, which was used in the model validation process. The developed model is expected to help in improving resource usage control for cloud users to enable cloud service providers to enhance the quality of service delivery to its many customers.

Authors:

Michael Okumu Ujunju, Solomon Ogara, Kelvin Omieno