

Study on Resource Allocation of Cloud Operating System Based on Multi-Tenant Data Resource Sharing Technology

Authors : Lin Yunuo, Seow Xing Quan, Burra Venkata Durga Kumar

Abstract : In this modern era, the cloud operating system is the world trend applied in various industries such as business, healthy, etc. In order to deal with the large capacity of requirements in cloud computing, research come up with multi-tenant cloud computing to maximize the benefits of server providers and clients. However, there are still issues in multi-tenant cloud computing especially regarding resource allocation. Issues such as inefficient resource utilization, large latency, lack of scalability and elasticity and poor data isolation had caused inefficient resource allocation in multi-tenant cloud computing. Without a doubt, these issues prevent multitenancy reaches its best condition. In fact, there are multiple studies conducted to determine the optimal resource allocation to solve these problems these days. This article will briefly introduce the cloud operating system, Multi-tenant cloud computing and resource allocation in cloud computing. It then discusses resource allocation in multi-tenant cloud computing and the current challenges it faces. According to the issue 'ineffective resource utilization', we will discuss an efficient dynamic scheduling technique for multitenancy, namely Multi-tenant Dynamic Resource Scheduling Model (MTDRSM). Moreover, there also have some recommendations to improve the shortcoming of this model in this paper's final section.

Keywords : cloud computing, cloud operation system, multitenancy, resource allocation, utilization of cloud resources

Conference Title : ICESSET 2023 : International Conference on Education, Science, Engineering and Technology

Conference Location : Kuala Lumpur, Malaysia

Conference Dates : December 04-05, 2023