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**STAR: SLA-AWARE AUTONOMIC MANAGEMENT**

**OF CLOUD RESOURCES**

**Abstract:**

Cloud computing has recently emerged as an important service to manage applications efficiently over the Internet. Various cloud providers offer pay per use cloud services that requires Quality of Service (QoS) management to efficiently monitor and measure the delivered services through Internet of Things (IoT) and thus needs to follow Service Level Agreements (SLAs). However, providing dedicated cloud services that ensure user's dynamic QoS requirements by avoiding SLA violations is a big challenge in cloud computing. As dynamism, heterogeneity and complexity of cloud environment is increasing rapidly, it makes cloud systems insecure and unmanageable. To overcome these problems, cloud systems require self-management of services. Therefore, there is a need to develop a resource management technique that automatically manages QoS requirements of cloud users thus helping the cloud providers in achieving the SLAs and avoiding SLA violations. In this paper, we present SLA-aware autonomic resource management technique called STAR which mainly focuses on reducing SLA violation rate for the efficient delivery of cloud services. The performance of the proposed technique has been evaluated through cloud environment. The experimental results demonstrate that STAR is efficient in reducing SLA violation rate and in optimizing other QoS parameters which effect efficient cloud service delivery.