

Title: AnomalyDetect: A System for Detecting Anomalies in Cloud Services

Speaker: Mamadou Diallo, Michael August

Abstract: In this paper, we present AnomalyDetect, an approach for detecting anomalies in cloud services. A cloud service consists of a set of interacting applications/processes running on one or more interconnected virtual machines. AnomalyDetect uses the Kalman Filter as the basis for predicting the states of virtual machines running cloud services. It uses the cloud service's virtual machine historical data to forecast potential anomalies. AnomalyDetect has been integrated with the AutoMigrate framework and serves as the means for detecting anomalies to automatically trigger live migration of cloud services to preserve their availability. AutoMigrate is a framework for developing intelligent systems that can monitor and migrate cloud services to maximize their availability in case of cloud disruption. We conducted a number of experiments to analyze the performance of the proposed AnomalyDetect approach. The experimental results highlight the feasibility of AnomalyDetect as an approach to autonomic cloud availability.

