

Cost-Driven Optimization of Cloud Resource Allocation for Elastic Processes

Reference:

S. Schulte, D. Schuller, P. Hoenisch, U. Lampe, S. Dustdar, and R. Steinmetz, "Cost-Driven Optimization of Cloud Resource Allocation for Elastic Processes", *International Journal of Cloud Computing*, vol. 1, no. 2, pp. 1-15, 2013.

Abstract:

Today's extensive business process landscapes make it necessary to handle the execution of a large number of business processes and individual process steps. Especially if process steps require the invocation of resource-intensive applications or a large number of applications need to be executed concurrently, process owners may have to allocate extensive computational resources, leading to high fixed cost.

In the work at hand, we propose an alternative to the provision of fixed resources, based on automatic leasing and releasing of Cloud-based computational resources. For this, we present an integrated approach which addresses the cost-driven optimization of Cloud-based computational resources for business processes in order to realize so-called Elastic Processes. Through an evaluation, we show the practical applicability and benefits of our contributions. Specifically, we find that our approach substantially reduces the cost compared to an ad hoc approach.