Auto-Scaling Techniques for Spark Streaming

Master-Thesis von Seyedmajid Azimi Gehraz
Tag der Einreichung:

1. Gutachten: Prof. Dr. rer. nat. Carsten Binnig
2. Gutachten: Dr. Thomas Heinze

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Dynamic resource scaling in cloud environments has been studied extensively in literature. As a naive implementation, there are two thresholds, namely *upper bound* and *lower bound*. However, such an implementation suffers from *oscillating* decisions. In order remedy this issue, *grace period* shall be enforced. During this period, no scaling decision is made.

Hasan et al. [1] introduced four thresholds and two time periods.

[1] M. Z. Hasan, E. Magana, A. Clemm, L. Tucker, and S. L. D. Gudreddi. “Integrated and autonomic cloud resource scaling”. In: *2012 IEEE Network Operations and Management Symposium* (2012), pp. 1327–1334.