University of Stuttgart
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Measurement-Based Software Performance Engineering for Microservices and Multi-Core Systems

HPI Future SOC Lab Day (Spring 2019)

Project Context and Idea

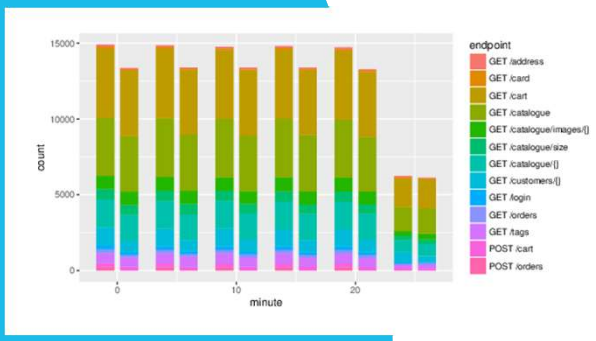
Performance describes the degree to which a software system meets its requirements w.r.t. timeliness and resource usage.

Use of SOC Lab resources for experimental evaluation of novel approaches in the following areas:

1. DevOps-oriented Load Testing for Microservices
2. Performance Engineering for Multi-Core Systems

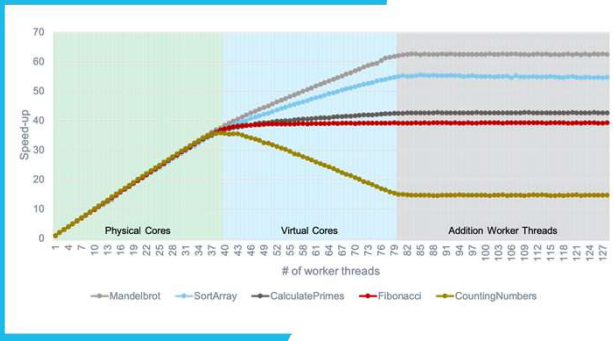
DevOps-oriented Load Testing for Microservices (Selected Result)

- Goal: extraction of tailored service-level load tests for microservices from system-level production traces
- Experiments in SOC Lab:
  - Docker-based Sock Shop application
  - 1st load tests to simulate and collect production traces
  - 2nd load tests with extracted service-level workloads



Performance Engineering for Multi-Core Systems (Selected Result)

- Goal: study performance-influencing factors of multi-core systems to obtain reference curves
- Experiments in SOC Lab:
  - Java-based parallel application
  - Benchmark runs with different system configurations (e.g., thread pool sizes, thread numbers, object sizes)



Contact

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https://www.iste.uni-stuttgart.de/rss/

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