## Towards Automating Representative Load Testing in Continuous Software Engineering

Henning Schulz NovaTec Consulting GmbH Karlsruhe, Germany Tobias Angerstein NovaTec Consulting GmbH Leinfelden-Echterdingen, Germany André van Hoorn University of Stuttgart Stuttgart, Germany

## ABSTRACT

As an application's performance can significantly impact the user satisfaction and, consequently, the business success, companies need to test performance before delivery. Though load testing al-lows for testing the performance under representative load by sim-ulating user behavior, it typically entails high maintenance and execution overhead, hindering application in practice. With regard to the trend of continuous software engineering with its parallel and frequently executed delivery pipelines, load testing is even harder to be applied.

In this paper, we present our vision of automated, context-specific and low-overhead load testing in continuous software engineering. First, we strive for reducing the maintenance overhead by evolving manual adjustments to generated workload models over a changing environment. Early evaluation results show a seamless evolution over changing user behavior. Building on this, we intend to sig-nificantly reduce the execution time and required resources by introducing online-generated load tests that precisely address the relevant context and services under test. Finally, we investigate minimizing the amount of components to be deployed by utilizing load-test-capable performance stubs.

## **ACM Reference Format:**

Henning Schulz, Tobias Angerstein, and André van Hoorn. 2018. Towards Automating Representative Load Testing in Continuous Software Engi-neering. In *ICPE '18: ACM/SPEC International Conference on Performance Engineering Companion*, *April 9–13, 2018, Berlin, Germany.* ACM, New York, NY, USA, 4 pages. https://doi.org/10.1145/3185768.3186288

ICPE '18, April 9-13, 2018, Berlin, Germany

© 2018 Association for Computing Machinery.

ACM ISBN 978-1-4503-5629-9/18/04...\$15.00

https://doi.org/10.1145/3185768.3186288

Permission to make digital or hard copies of all or part of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. Copyrights for components of this work owned by others than ACM must be honored. Abstracting with credit is permitted. To copy otherwise, or republish, to post on servers or to redistribute to lists, requires prior specific permission and/or a fee. Request permissions from permissions@acm.org.