Bachelor’s Thesis:
Supporting Input Data in the WESSBAS Approach for Workload Modeling, Extraction, and Generation

Background and Motivation
Defining workload specifications with realistic parameters and behaviour patterns of virtual users is one of the main objectives nowadays. Approaches considering these aspects serve to simulate human users interacting with active server environments as accurately as possible. The main goal is to create and integrate input data in the WESSBAS Approach [1] using the extension of Markov4JMeter [2] to increase the effectiveness of performance load testing and generation of executable tests evaluated by SPECjEnterprise.

Goal
The WESSBAS approach developed by [1] launches an automated extraction of probabilistic workload specifications pre-eminently of session-based application systems. These specifications can be modelled by the WESSBAS domain specific language (DSL). The WESSBAS-DSL is used as an intermediate language between SUT-specific workloads models and the generation of corresponding inputs to load testing tools. This domain-specific language is realised on a basis of an Eclipse Modeling Framework (EMF) meta-model, which already contains a lot of useful constraints. These constraints are specified in the Object Constraint Language (OCL). The tasks in detail:
1.) Extention of the WESSBAS-DSL by integrating parameter support.
2.) Development of a data pool infrastructure to provide parameter pool generations with corresponding definitions of dependencies among them.
3.) Extraction of input values by means of data pool generators preparing data for the WESSBAS-DSL instances.

Literatur


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