Automatic Extraction of Layered Queueing Networks from Execution Traces

Description

Layered Queueing Networks (LQN) are a formalism for modeling and predicting performance properties of software systems. The manual creation of performance models, such as LQNs, are time-consuming and error-prone. If an implementation of the system under analysis is available, it is desirable to support the model creation and calibration by automatic extraction. The extraction may be based on static analysis—e.g., from source code—or dynamic analysis, i.e., by observations from the running system. This seminar paper should briefly introduce the LQN concept, provide a compact overview about existing techniques to extract LQNs based on static and dynamic analysis—including transformations from design models—, before focusing on the automatic extraction of LQNs from execution traces. The provided references are to be considered a starting point and it is expected to extend the literature search and present a coherent view on the current state of the art in this area.

References


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