Layered Queuing Networks For Simulating Enterprise Resource Planning Systems

Abstract:
As Enterprise Resource Planning systems (ERP) form the backbone of today’s business processes the stability and performance of those systems is vital to the whole company. In many cases less is known what happens to the performance of an ERP system when a patch is applied or changes are made to the ERP system. This paper presents an approach how to simulate Enterprise Resource Planning systems (ERP) before changes are made to the system. The approach involves the development of so called Layered Queuing Networks (LQN). To construct such a LQN the paper utilizes a trace in the ERP system to gather data about the internal ERP system’s architecture. These data is used to construct a section of the internal architecture of the ERP system. The ERP system’s architecture is transformed into a LQN and the LQN is simulated.

Intellectual Contribution:
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