The impact of servers breakdown on the performance of proxy cache servers *

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Abstract

An open Jackson-type queuing network model is proposed to study the impact of the servers breakdown on the overall response times to Web requests. The primary aim of the present paper is to modify the performance model of the Proxy Cache Server to a more realistic case when both the Proxy Cache Server and the Web server are unreliable. The main performance and reliability measures are derived, and some numerical calculations are carried out by the help of the MOSEL tool. The nu- merical results are graphically displayed to illustrate the effect of the non-reliability of the servers on the mean re- sponse time.

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