

A generalized queueing network model to study Proxy Cache Servers

Abstract

In this paper we treat a modification of the performance model of Proxy Cache Servers to a more powerful case when the inter-arrival times and the service times are generally distributed. First we describe the original Proxy Cache Server model where the arrival process is a Poisson process and the service times are supposed to be exponentially distributed random variables. Then we calculate the basic performance parameters of the modified performance model using the well known Queueing Network Analysis (QNA) approximation method. The accuracy of the new model is validated by means of a simulation study over an extended range of test cases.

Keywords: queueing Network, Proxy Cache Server, Performance Models, GI/G/1 queue

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