

1154-60-1397

Gerardo Rubino* (gerardo.rubino@inria.fr), INRIA, Campus de Beaulieu, 35042 Rennes, France. *Tight bounds of performance metrics computed on Markovian queuing models*. Preliminary report.

Except in a few fundamental models, the only way to evaluate the performance associated with a queue is to use numerical techniques or simulation. These methods have several drawbacks, and concerning the former, one of them is how to deal with open models accepting an unbounded number of customers. Several years ago, based on results by Semal and Courtois, Munz, De Souza e Silva and Goyal developed a technique allowing to derive bounds of dependability measures on a finite Markovian model, that are particularly tight in case of rare events. These techniques were improved in a few works, including ours, where in particular we showed how to apply them to infinite state models of queues, basically in light traffic conditions. In this talk we will present some new improvements of those procedures, having as an objective to obtain tight bounds of classic performance metrics, using more general models, always in a Markovian setting. (Received September 15, 2019)