

Centro de Investigação em Matemática e Aplicações
Departamento de Matemática
Programa de Doutoramento em Matemática

Seminário

28 de fevereiro de 2020

CLAV – sala 138 – 14h00

Traffic Estimation of a M/G/1 Queue Using Probes

Gonçalo Jacinto¹

IIFA/CIMA and ECT/DMAT of Évora University

Abstract: The huge growth of the Internet associated to the appearance of new multimedia applications requiring high demands of traffic, gives an important role to the monitoring of Internet traffic for quality of service assessment.

In this context, Internet probing has been a subject of great interest for researchers, since it permits to measure the internet performance by sending controlled probe packets to the network whose observed performance can be used to estimate the characteristics of the original traffic.

In this work we consider the estimation of the arrival rate and the service time moments of an Internet router modelled as a M/G/1 queue with probing. The probe inter-arrival times are i.i.d. and probe service times follow a general positive distribution. The only observations used are the arrival times, service times and departure times of probes. We derive the main equations from which the quantities of interest can be estimated.

¹ Joint work with Nelson Antunes (FCT/DMAT of Universidade do Algarve e CEMAT) and António Pacheco (DMAT of Instituto Superior Técnico, Universidade de Lisboa and CEMAT)..



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