Abstract

The work explores several models for routing of unsplittable flow in networks of parallel links under the light of game theory. That is, the main focus lies on the selfish behavior of network users, in contrast to the classical viewpoint of optimization. Users may decide independently about their routing path and are assumed to act as to minmize their experienced latency. The user decisions may be deterministic or non-deterministic. A *Nash equilibrium* is a state in which no user can decrease his/her latency by changing the current strategy. The *price of anarchy* is a well known measure for the loss in social performance due to lack of cooperation among the users. The price of anarchy as well as computational aspects of Nash equilibria are theoretically examined for the respective models.