Networking Game with Gap Payoff Functions

Victor V. Zakharov
Faculty of Applied Mathematics and Control Processes
St.Petersburg State University,
Universitetski, pr., 28, St.Petersburg, 198504, Russia
E-mail:mcvictor@icape.nw.ru

Abstract

In this paper networking game and resource allocation are discussed. Quality of Service guaranties for network service is considered as the key feature of telecommunication networks. Game theoretic approach described in the paper is applied under noncooperative framework. Nash optimality principles are used to construct optimal routing strategies in multi-user noncooperative telecommunication network. Method to calculate Nash equilibrium in networking game with gap payoff functions is discussed, and sufficient condition for existence of Nash equilibrium is formulated.