Load Balancing and Routing Games with Admission Price

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We consider load balancing with routing games in a multiclass traffic environment. The servers are M/M/1 type servers and charge an admission price to each customer that joins the queue for service. Service requirements of all arriving customers are i.i.d. and they can receive service from any of the servers. Customers also have a waiting time cost that is proportional to their expected waiting times. Arrivals are from a multiclass population with the different classes differing in the their waiting time costs and having different arrival rates. We consider the following several models for the load balancing schemes and analyze their equilibrium behavior. We also see use of admission price as a means to achieve a given load profile.