

Counteracting free riding in Peer-to-Peer networks

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Abstract

The existence of a high degree of free riding is a serious threat to Peer-to-Peer (P2P) networks. In this paper, we propose a distributed framework to reduce the adverse effects of free riding on P2P networks. Our solution primarily focuses on locating free riders and taking actions against them. We propose a framework in which each peer monitors its neighbors, decides if they are free riders, and takes appropriate actions. Unlike other proposals against free riding, our framework does not require any permanent identification of peers or security infrastructures for maintaining a global reputation system. Our simulation results show that the framework can reduce the effects of free riding and can therefore increase the performance of a P2P network. (c) 2007 Elsevier B.V. All rights reserved.