ABSTRACT

Using the Internet for video stream is becoming a trend, but it brings many challenges. The foundation upon which the Internet is based, packet switching and client-server architecture, is not suitable for this type of service. P2P (peer to peer) architecture is being considered as an infrastructure for video streams on the Internet. The basic idea is that the several members of the overlay network cooperate in the task of distributing and fowarding video chunks, making available their local resources to the network. Within this context, it is important to investigate what happens to the quality of service of the video distribution when the infrastructure provided by the P2P network is "contaminated" with free-riding nodes, which are not willing to cooperate, since the basis of this architecture is cooperation. In this work, study is initially carried out to check how the presence of uncooperative nodes can affect the quality of the distribution application of video streaming on a P2P network. Based on these results, a mechanism is proposed to encourage cooperation in order to be guaranteed a video with good quality to the cooperative nodes and some punishment for those uncooperative. The tests and evaluations were performed using the PeerSim simulator.

Keywords: P2P systems, video streaming, partner selection mechanism, push/pull protocol, cooperation incentive mechanism, information diffusion in chunk-based.