

A Framework for Highly Reconfigurable P2P Trackers

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Abstract—The increasing use of Peer to Peer (P2P) applications, usually ruled by selfish behaviors, is posing new challenges to the research community. As contributions of this work we firstly devise a general framework underpinning the development of highly reconfigurable P2P trackers. Following that, a novel tracker architecture is proposed and several illustrative and enhanced tracker configurations are described. As result, the devised solution turns possible that flexible, programmable and adaptive peer selection mechanisms can be introduced at the P2P application level.

The proposed solution assumes the general framework of one of the most popular P2P solutions, in this case a BitTorrent-like approach. As illustrative examples of the proposed framework capabilities, several straightforward and easy to deploy tracker configuration examples are presented, including methods for qualitative differentiation of swarm peers and advanced P2P Traffic Engineering mechanisms fostering the collaboration efforts between ISPs and P2P applications. Both the framework and the devised tracker configurations are validated resorting to simulation experiments.

Citation

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