

Distributed overlay networks do not only need to be scalable but also to be robust against (adversarial) churn and adversarial DoS-attacks. In 2016, Drees, Gmyr & Scheideler developed amongst others a protocol that maintains connectivity under an omniscient adversary causing constant churn in $O(\log \log n)$ communication rounds through perpetual network reconfiguration. The main objective of this thesis is to develop an asynchronous variant of the aforementioned reconfiguration protocol and a protocol that transforms any strongly-connected graph into a topology that is suitable for our application. As a practical complement, these developed protocols are implemented in a simulation and their behaviors are empirically evaluated.