

Improving Routing Load Balance on Chord

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Abstract— Structured P2P overlay networks provide rather balanced query routing load than centralized network because of their distributed design. But certain designing issues might exist and lead to an unbalanced routing load. In some systems like Chord where stored objects are small, routing dominates the cost of publishing and retrieving an object. How to balance the routing load fairly becomes critical. In this paper, we analyse three designing issues that cause an imbalance routing load on Chord and external factor like non-uniform request distribution that aggravates those issues. We aim to evaluate our proposal under highly skewed request distribution and the simulation result shows that our proposal performs great, the routing load fairness among peers are significantly improved, and also has a better query performance after comparing with original Chord and one of the existing enhanced proposal.

Keywords— overlay networks, Chord protocol, load balance



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