Cache Discovery Over a Multihop Wireless Ad Hoc Network

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Multihop ad hoc wireless networks consist of mobile nodes that communicate with each other without any fixed infrastructure. The nodes in these networks are power constrained, since they operate in limited battery energy. Cooperative caching is an attractive solution for reducing network traffic and bandwidth demands in mobile ad hoc networks. Deploying caches in mobile nodes can reduce the overall traffic considerably. Cache hits eliminate the need to contact the data source frequently, which avoids additional network overhead. In this paper we propose a cache discovery policy for cooperative caching, which reduces the power usage, caching overhead and delay. This is done by power control and transmission range adjustment. A cache discovery process based on position coordinates of neighboring nodes is developed for this. The simulation results gives a promising result based on the metrics of studies.

Keywords: Cache Discovery, Cache Placement, Cache Replacement, Cooperative Caching, Data Dissemination.

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