Abstract

A dynamic data dissemination network is a content delivery network (CDN) implemented with a hierarchical network of data aggregators (repositories) for disseminating dynamic data like stock quotes, number of votes polled for a political party in an election in different regions and environmental parameters. Continuous aggregate query is a query with aggregation operations and is repeatedly requested by the user. Executing continuous aggregate queries in dynamic data dissemination networks/CDNs is the essence of our work. There are two major tasks of data dissemination networks. First one is effectively providing data to clients from sources through the network of data aggregators by assigning optimal data aggregators to clients. The second one is propagating the updates of dynamic data to clients. There are different algorithms like enhanced greedy algorithm with withdrawals and primal dual parallel algorithm for accomplishing the first task. The second task can be performed using policies like push, pull, push-or-pull, and push-and-pull. The existing algorithms for dissemination of data and policies for distributing the updates of data are explored in this paper. Then a policy for consistently propagating the updates of dynamic data and an algorithm for optimally assigning data aggregators to clients for disseminating data in CDNs are extracted.
Optimal Policy of Data Dissemination in CDNs

- Shah, S., Ramamritham, K., & Shenoy, P. 2004. Resilient and coherence preserving dissemination of dynamic data using cooperating peers. IEEE Transactions on Knowledge and Data Engineering, 16(7).

Index Terms

Computer Science

Algorithms
Keywords

Dynamic data dissemination networks  primal-dual parallel algorithm for continuous aggregate query dissemination (PDPA)
enhanced greedy algorithm with withdrawals (EGAWW)
dynamic data dissemination graph
data aggregator (DA)
data incoherency bound