

Efficient and Robust Query Processing in Dynamic Environments Using Random Walk Techniques

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Critique:

1. No (minimal) recovery mechanism needed to counter failures

Recovery mechanism is not needed because the probability with which the node containing the token will fail. On the other hand, if there are holes in the network then there is a higher probability of the token getting lost. So in such cases, we need to include a ACK message for the tokens to ensure retransmission in case of failures. The number of messages is minimal.

2. Not suited for long ranges as latency is proportional to the range

The range is proportional to the size of the network. It is the number of steps needed to reach the destination. So this is not well suited for queries that cannot tolerate long latencies.

3. Effect of parallel tokens in the system is not studied

Only one token is present in the system. So this does not take into consideration the collision overhead that is needed because of collision in the medium.

4. Comparison with other methods for failures is not done

A comparative study with holes or probability of node failures in existing methods is not done.

5. Suitable only for specific types of queries

Not suited for all types of queries. This can be suited only for queries that can be answered by visiting a fraction of nodes in the network.

6. Simulation results – no experiments

The results provided are based on simulations. So there is no consideration of obstacles or other real time dynamics that can affect the system.