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DCASH: Dynamic Cache Synchronization Algorithm for Heterogeneous Reverse Y Synchronizing Mobile Database Systems

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Abstract : The synchronization server maintains a dynamically changing cache, which contains the data items which were requested and collected by the mobile node from the server. The order and presence of tuples in the cache changes dynamically according to the frequency of updates performed on the data, by the server and client. To synchronize, the data which has been modified by client and the server at an instant are collected, batched together by the type of modification (insert/ update/ delete), and sorted according to their update frequencies. This ensures that the DCASH (Dynamic Cache Synchronization Algorithm for Heterogeneous Reverse Y synchronizing Mobile Database Systems) gives priority to the frequently accessed data with high usage. The optimal memory management algorithm is proposed to manage data items according to their frequency, theorems were written to show the current mobile data activity is reverse Y in nature and the experiments were tested with 2g and 3g networks for various mobile devices to show the reduced response time and energy consumption.

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