

**An Active Data-aware Cache Consistency  
Protocol for Data-Shipping DBMS  
Architectures**

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**Abstract**

*In a data-shipping database system, data items are retrieved from the server machines, cached and processed at the client machines, and then shipped back to the server. Cache consistency controls typically rely on a centralized server or servers to enforce the necessary concurrency control. This system presents a consistency control protocol, Active Data-aware Cache Consistency (ADCC) that allows clients to be aware of the global state of their cached data via a two-tier directory. In addition, ADCC performs the concurrency control from the server to the clients.*