



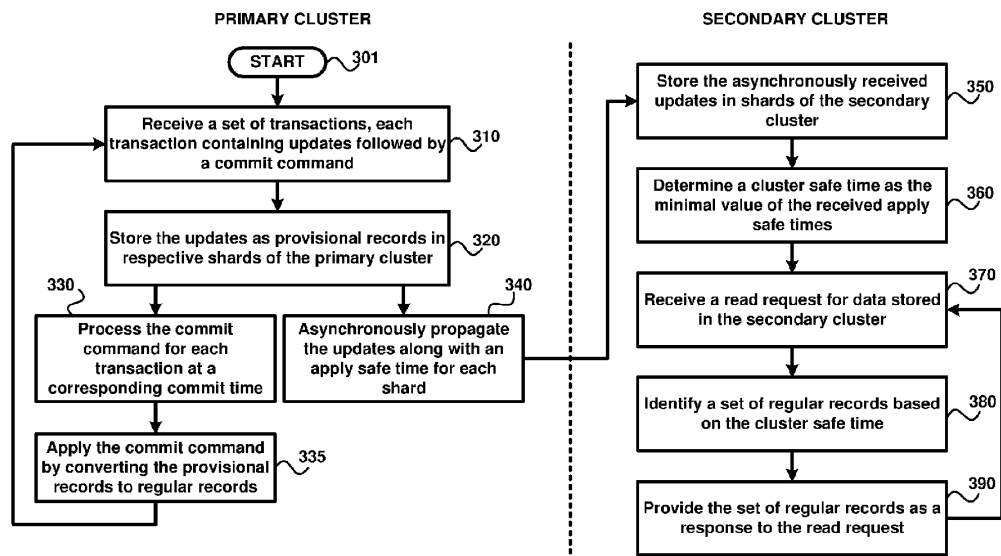
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- (54) **Title:** TRANSACTIONAL CONSISTENCY IN A SECONDARY CLUSTER WHEN TRANSACTIONS ON DISTRIBUTED DATA ARE PROPAGATED ASYNCHRONOUSLY FROM A PRIMARY CLUSTER



**FIG. 3**

- (57) **Abstract:** Aspects of the present disclosure are directed to providing transactional consistency in a secondary cluster when transactions on distributed data are propagated asynchronously from a primary cluster. In one embodiment, for each shard in the primary cluster, a corresponding apply safe time is computed at the primary cluster and thereafter communicated to the secondary cluster. The apply safe time for each shard is computed based on a safe time associated with the tablet and a list of transactions committed before this time. Such a technique relieves the secondary cluster from keeping track of the state of all transactions that are in progress.

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