Pattern: Transaction log tailing

Context

You have applied the Transactional Outbox (transactional-outbox.html) pattern.
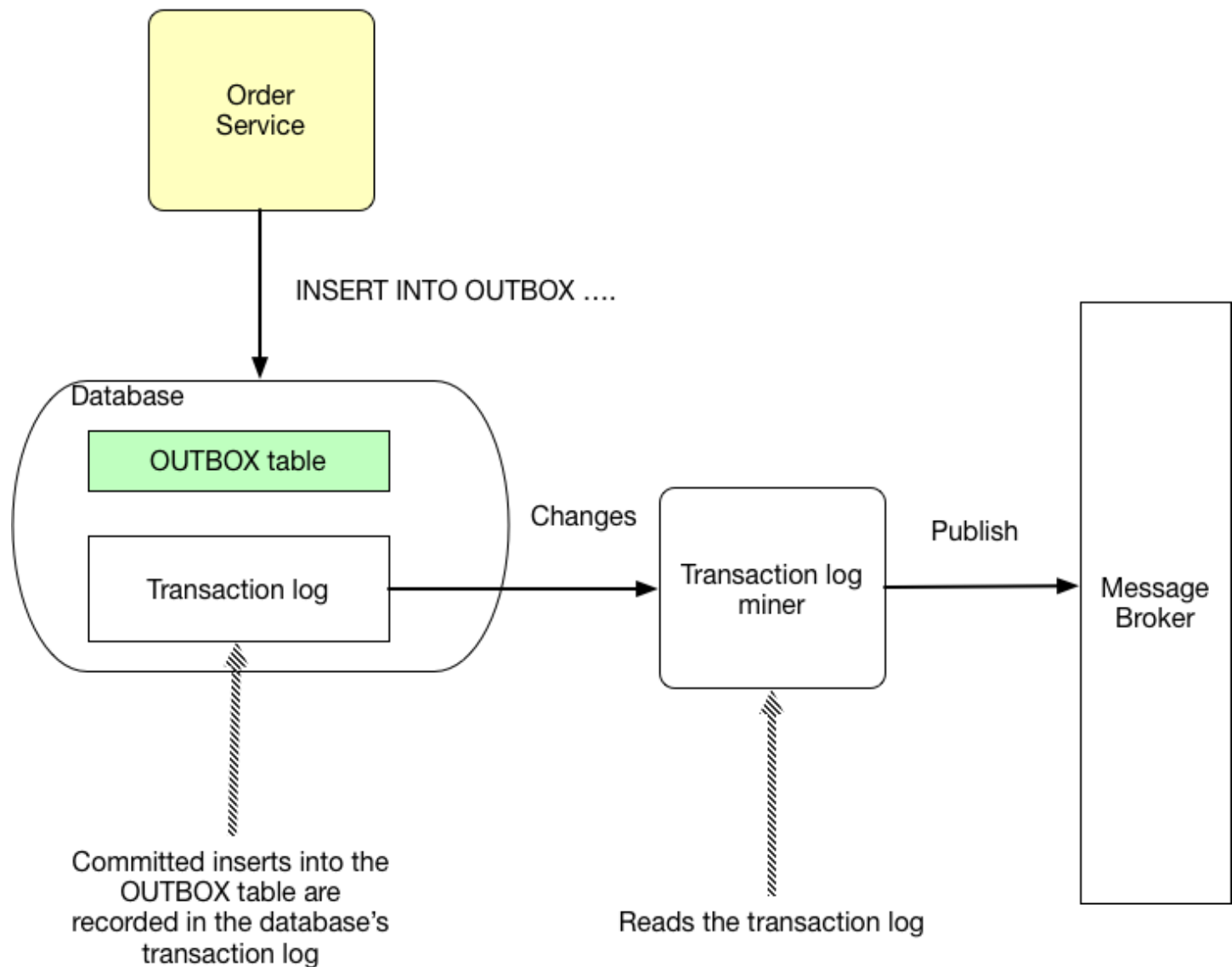
Problem

How to publish messages/events into the *outbox* in the database to the message broker?

Forces

Solution

Tail the database transaction log and publish each message/event inserted into the *outbox* to the message broker.

The mechanism for trailing the transaction log depends on the database:

- MySQL binlog

- Postgres WAL
- AWS DynamoDB table streams

Example

- Eventuate Tram framework (https://github.com/eventuate-tram/eventuate-tram-core) implements transaction log tailing.

Resulting context

This pattern has the following benefits:

- No 2PC
- Guaranteed to be accurate

This pattern has the following drawbacks:

- Relatively obscure although becoming increasing common
- Requires database specific solutions
- Tricky to avoid duplicate publishing

Related patterns

- The Transactional Outbox (transactional-outbox.html) pattern creates the need for this pattern
- The Polling publisher (polling-publisher.html) pattern is an alternative solution

Learn more

- My book Microservices patterns (/book) describes this pattern in a lot more detail.
- The Eventuate Tram framework (https://github.com/eventuate-tram/eventuate-tram-core) implements this pattern