pgpool-II: Demonstration

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Agenda

- History
- Overview of pgpool-II
- Demonstration

pgpool: the history

- V0.1: Started as a personal project (2003/6/27)
- V3.0: pgpool Global Development Group(2006/2)
- pgpool-II V1.0(2006/9)
- pgpool-II V2.0(2007/11)
- pgpool-II V2.1beta(2008/5)

Why pgpool?

- We need **synchronous** replication
- We need **simple** replication solution
- We need **transparent** replication solution
- We need **high performance** clustering solution

pgpool features

- ✓ Synchronous replication
  - ✓ No need to change application semantics
- ✓ Easy to use
  - ✓ Easy to configure
  - ✓ Can replicate DDL
- ✓ Transparent replication
  - ✓ Can be used with any programming languages

pgpool features(continued)

- Performance boost
  - connection pooling
  - load balancing
  - parallel queries
- Enhance reliability
  - automatic failover
- Easy to administrate
  - GUI tool
  - On line recovery

On line recovery

- “Fail back” a node without stopping pgool
- Two-stage recovery steps
  - First stage
    - Recover data roughly
      - Can accept write queries
      - Some data might not be consistent between “master” and recovered node
  - Second stage
    - Recover data precisely
      - Wait until all clients disconnected
      - Precisely sync data

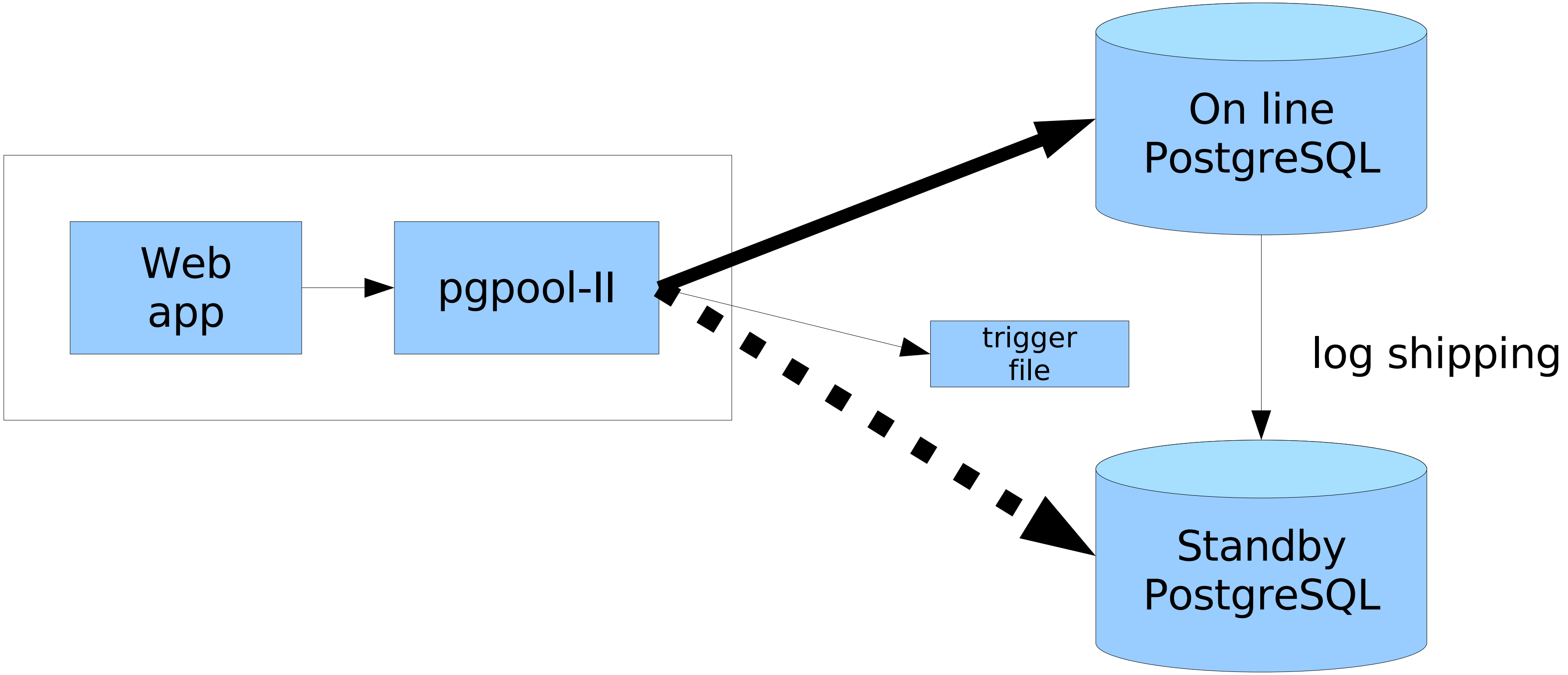
On line recovery using PITR

- First stage
  - Start base backup on master
  - Send base backup to slave
  - Take some time but queries can be accepted including write ones
- Second stage
  - Wait until all clients disconnected
  - Send archive logs generated on the first stage
  - Start PITR recovery on slave

pgpool-II+warm standby

- Warm standby system continuously makes a copy of the on line node
- Standby system takes over when the on line node goes down
- Need some components for warm standby system to be used in the real world
  - Detecting on line node failure
  - Redirecting DB connections to the new node
- pgpool-II can provide both

pgpool-II + warm standby



- pgpool-II operates in “raw” mode
- no replication
- no load balancing