



Building a High Availability Solution that Works

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Remember High School Math ?

- Function ($f(x) = y$) ?
- A deterministic result from a known input
- $f(x) = 2x$, $f(x) = x^2$, $f(x) = \sin(x)$, ...
- $f(a_1, a_2, a_3, a_4, \dots, a_n) = y$
- Pseudo random functions
- Chaos Theory: weather prediction (butterfly effect)

The Binary Log Function on Slaves

Configuration

- filters (empty trx w GTID)
- slave-parallel-workers
- slave-preserve-commit-order
- binlog_format

Relay Logs

Relay Logs2

Relay Logs3

Human

- skipping transactions
- modifying configuration
- restarting MySQL
- doing mistakes

Load on the system
(virtualisation ?)

??? Others ???

Local Transactions

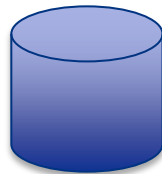
log-slave-updates

Binary Logs

3

Content of the Database

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State of the Buffer Pool

Hardware

- # and speed of CPU
- amount of RAM
- speed of storage (RAID rebuild ?)
- network (congestion ?)

Would you build a high availability solution on the output of such a complex function ?

GTID + log-slave-updates
→ very complex high availability

Complex things break in complex ways

Is there Better ?

- Yes: the Binlog Server
- A very simple concept

The Binary Log Function on Slaves (without log-slave-updates)

Much more simple, isn't it ?

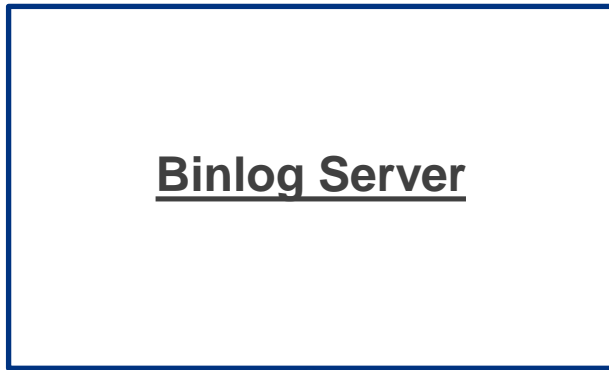
And the best thing about it:
because it is not running on many slaves
duplicated unreliable output does not happen.

Local Transactions
↓

Binary Logs

And The Binlog Server Function

Binary Logs from the Master



Binary Logs from the Master

There is Better

- The Binlog Server
- A very simple concept
- A good starting point for High Availability
- <http://jfg-mysql.blogspot.com/>

Thank you

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