MySQL Server Tuning: not an optional extra

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Eek! Interactivity
What do these words mean to you?

Scaling

Tuning

Resilience

InnoDB storage engine

- default_storage_engine = InnoDB
  - innodb_buffer_pool_size = 512M (default: 16M)
  - innodb_file_per_table = 1 (default: 0)
  - innodb_flush_method = O_DIRECT
  - innodb_io_capacity = 400
  - innodb_log_file_size = 64M (default: 5M)
    - see refman for detailed info, you can't just change this!

- `mysql_convert_table_format --type=InnoDB --user=root --password='secret' --force dbname`
  - note: mysql system database *must* remain MyISAM

General baseline settings

- MyISAM
  - myisam_recover_options = QUICK,BACKUP
  - table_cache = 400 (default: 64)
  - key_buffer_size = 16M (or >128M if you use MyISAM)
  - read_buffer_size = 2M (default: 256K)
  - read_rnd_buffer_size = 1M (default: 128K)
- GROUP BY / ORDER BY operations
  - sort_buffer_size = 2M
- Temporary tables
  - tmp_table_size = 32M
  - max_heap_table_size = 32M

Connections & Caching

- Connections
  - max_connections = 200 (default: 100)
  - thread_cache_size = 200
  - in php.ini `mysql.allow_persistent_connections=Off`

- MySQL query cache
  - query_cache_size = 64M (default: 16M)
  - query_cache_size_limit = 128K (default: 1M or higher)
  - Use *memcached*!

Logging

- Error log
  - log_warnings = 2
- Binary log
  - log_bin = hostname-bin
  - expire_logs_days = 21
- Slow query log
  - log_slow = hostname-slow.log
  - long_query_time = 1
  - log_queries_not_using_indexes

Resilience - Prevention!

- **Better than a cure**
  - Is there a cure? How much down time can you afford?
  - Or are you just taking on a *calculated* commercial risk?
- **Insurance can't get your data back**
  - Most support works like insurance though!
  - SLA? Suing someone won't save your business

- **Significant Side Effects**
  - Personnel Choice
  - Business Infrastructure
  - Money Savings
  - Happyness!

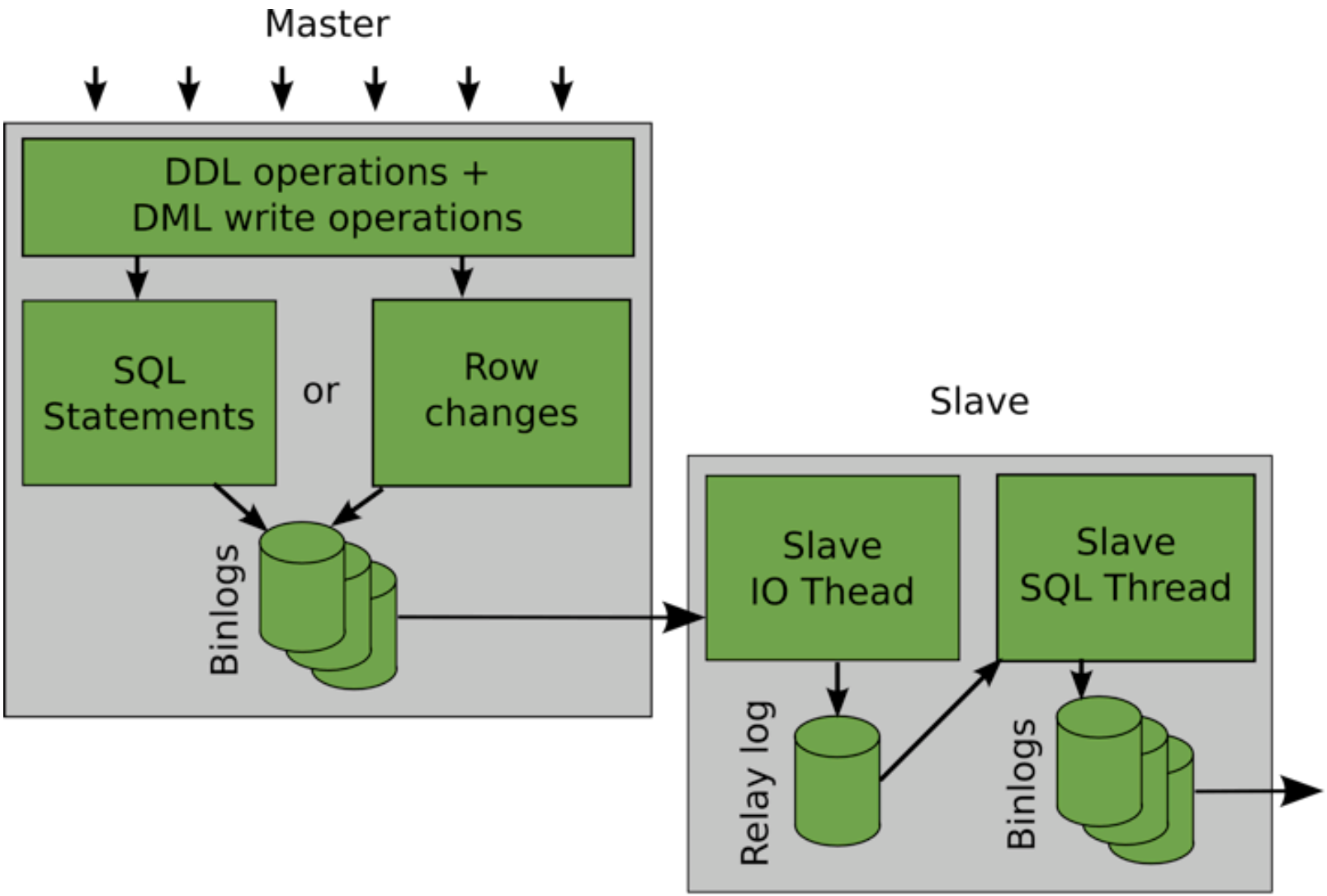
Backups & Replication

- You need a backup strategy
  - both logical (mysqldump) and physical (filesystem) backups
    - they serve different purposes
  - Replication is *not* a backup strategy
  - SAN or RAID is *not* a backup strategy

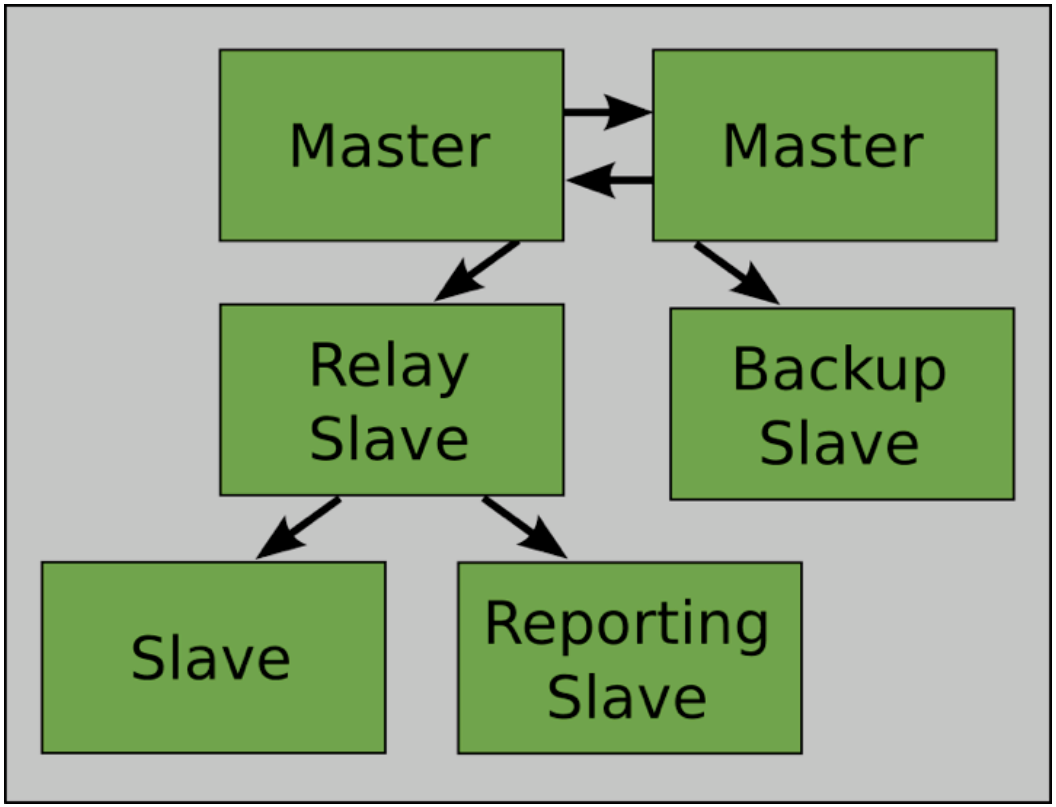
- Multi-master for resilience & maintenance
  - Dual masters with MMM, automatic failover
    - Works with Drupal 6

- Replication slaves for read-scalability
  - Drupal 7 supports

MySQL Replication Architecture



MySQL Replication Topologies



Monitoring

- We use Zabbix for monitoring
  - see zabbix.com
  - optional, but inclusive with any subscription we do
- Tribily offers hosted Zabbix monitoring for small setups
  - see tribily.com
  - startup by Open Query engineer Walter Heck

Last questions?

- We prefer the MariaDB branch by Monty: mariadb.com
  - check out cafuego's friendlist_graph module
    (uses OQGRAPH engine, included from MariaDB 5.2)

- Open Query specialises in remote service subscriptions
  - reviews, MMM setups, backups, monitoring, tuning, sysadmin
  - ask Arjen or Peter here at Drupal DownUnder!

Thank you!

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