

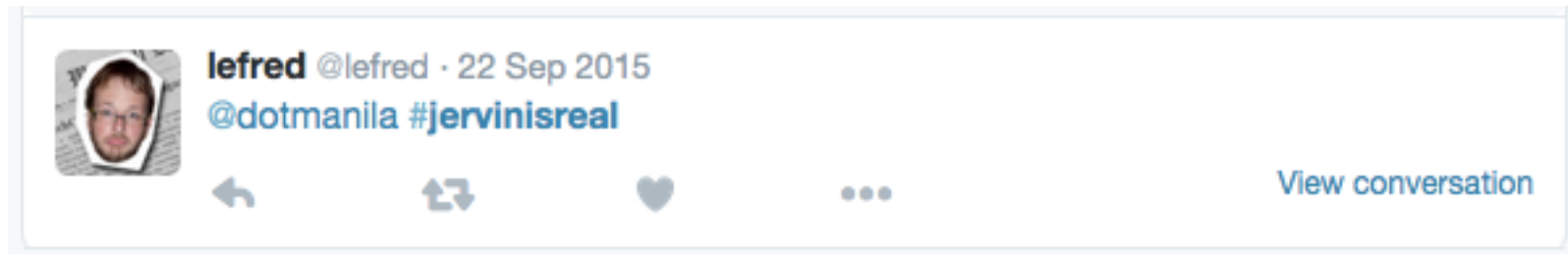


TokuDB: What You Need to Know

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MySQL and Friends, FOSDEM 2016

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Why are you looking at TokuDB?

You think it's shiny?

Shiny TokuDB Features

- Compression choices
- Hot schema changes
- Amortized writes
- Longer hardware life
- Faster replication
- Multiple clustering indexes

Because you need to get past InnoDB
limitations?

Evaluation

- Queries
- Overall performance
- Requirements

Evaluation - Queries

- Need for rewrites?
- Grammatical changes

Performance

BAD	GOOD
UNIQUE KEY	Amortized writes, saves IO
Non-sequential PK	Wide tables, many indexes, good write performance
SELECTs penalty from merging MBs	Read free replication

Minimum Install - OS

```
echo never > /sys/kernel/mm/transparent_hugepage/enabled  
echo never > /sys/kernel/mm/transparent_hugepage/defrag
```

```
/etc/security/limits.conf
```

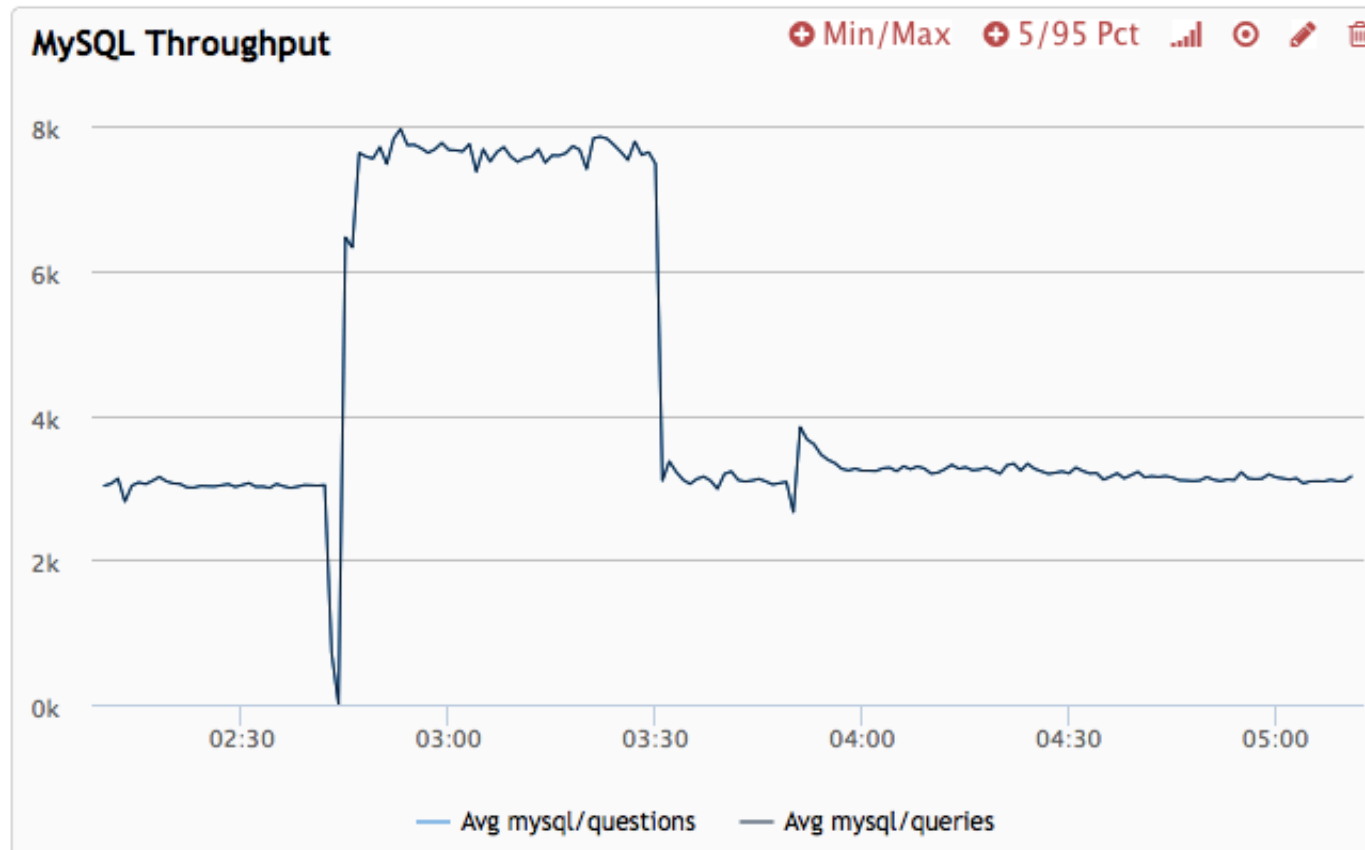
mysql	soft	nofile	65536
mysql	hard	nofile	65536

Minimum Install - MySQL

```
[mysqld]  
open-files-limit = <LARGE_ENOUGH>  
tokudb_fs_reserve_percent = <FIXED_SIZE>  
tokudb_cache_size = <50% RAM>  
tokudb_directio = ON  
log_bin = /path/to/log-bin
```

```
[mysqld_safe]  
malloc-lib = /path/to/jemalloc
```

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Loading Data

- `ALTER TABLE innodbtbl ENGINE=TokuDB;`
- `mysql tokuschema < mysqldumpfile.sql`
- `SELECT INTO OUTFILE, LOAD DATA INTO`

Backups

- Open source plugin TokuDB Hot Backup
- Copies EVERYTHING!
- `datadir, tokudb_data_dir, tokudb_tmp_dir, tokudb_log_dir`
- Disable `innodb_use_native_aio!` – [lp#1521590](#)
- Use LVM!

What to Monitor

- Open file descriptors
- Swapping
- Checkpoint durations

Questions?