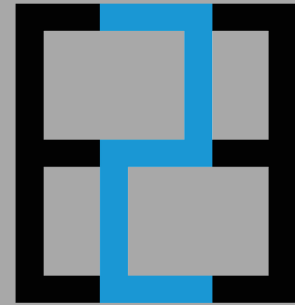


# CASE STUDY



E2E Networks

HELPED A MOBILE COMMERCE  
COMPANY ON AWS CLOUD TO  
MAINTAIN DB LOAD DISTRIBUTION  
AND GUARANTEE UP-TIME



HOW E2E NETWORKS CLOUDOPS  
ELIMINATED INFRASTRUCTURE  
CONCERNS AND OPTIMIZED THE  
DATABASE ENVIRONMENT

## ABOUT COMPANY

The company is one of the largest device management and proactive ownership platform in India for device distribution, sales, warranty, after-sales and end of life management services.



## SERVICE REQUIREMENTS



Handle infrastructure concerns, and optimize the database environment

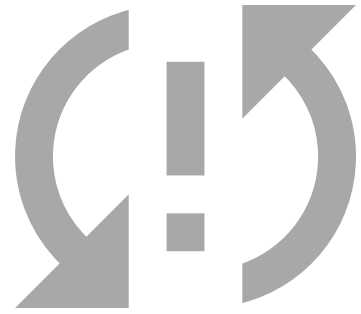
Guarantee database uptime on AWS Infrastructure



Create a reliable, highly-available application experience

# THE CHALLENGE

- The client's MySQL Master server was burdened under heavy read queries while MySQL slave server was only used for backups
- MySQL Master server wasn't tuned properly
- Deteriorated application performance with frequent crashes as API call's generated read queries on MySQL Master server



## OVERVIEW



### MySQL Master Server

- Flooded with the read/write queries from the application as well as API's.
- The read intensive API's used to increase the load on the master server



### MySQL Master Slave

- Primarily used as a backup server running daily backups and manual queries.
- No database read-write query separation present at the code level..



## STRATEGY OVERVIEW

E2E's team scavenged the challenges & carefully crafted an integrated solution to overcome the problems in a cost-effective way. Our experts began with an audit of the entire database environment. This audit found that the client's architecture had flaws and the database load distribution wasn't properly implemented.

## ALTERNATE SOLUTIONS

1

### VERTICAL SCALING MODEL

Increase the resources of the MySQL Master server.

### POSSIBLE OUTCOMES

- The read intensive queries would continue to hit on the master server.
- Limited upgradability scope hardware failure may lead to greater outages.

2

### CODE LEVEL R/W SEPARATION

Code refactoring and introducing Read-Write separation at the code level

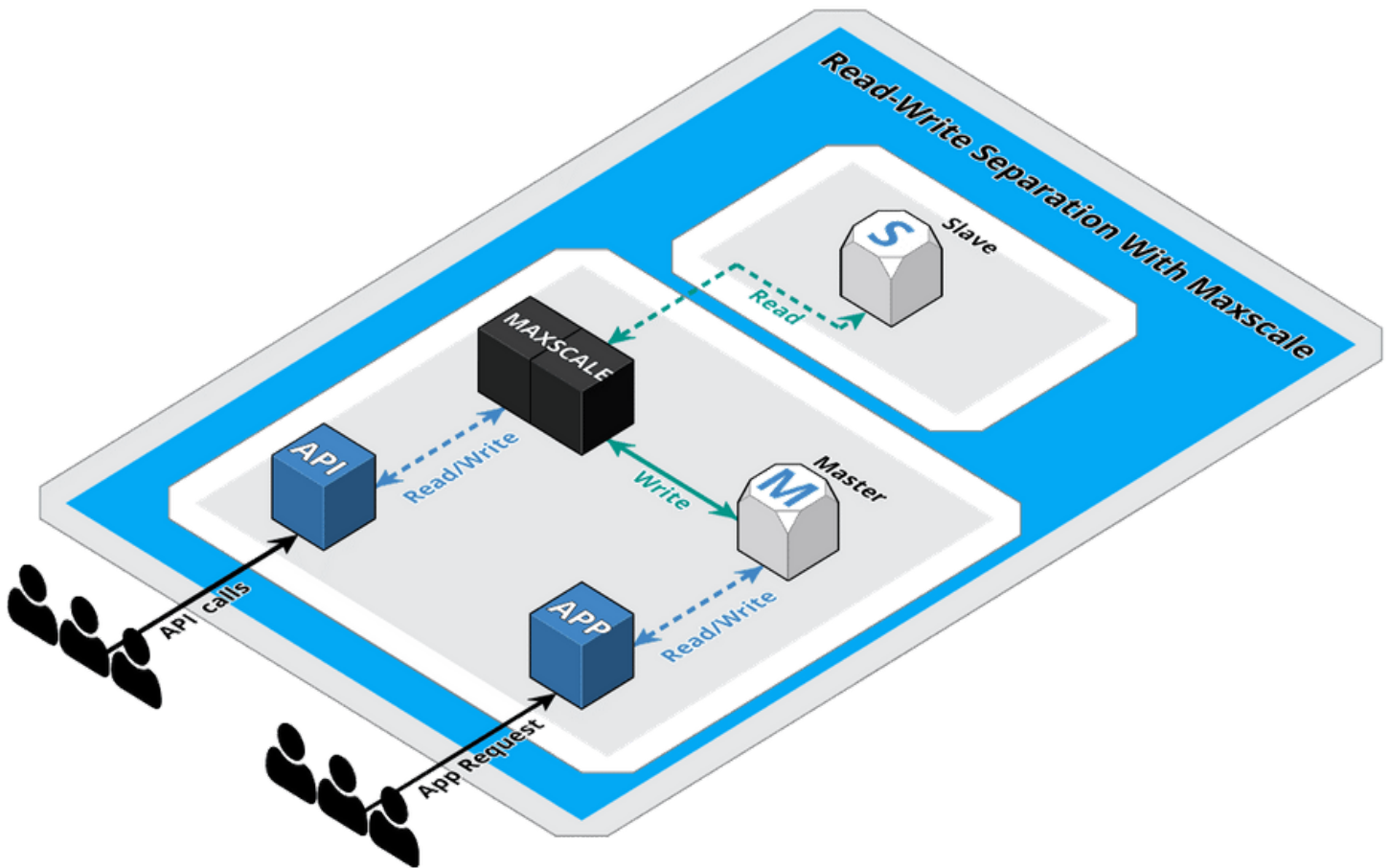
### POSSIBLE OUTCOMES

- Tedious task for development team
- Risk of performance, downtime or failure over a production environment

# E2E'S SOLUTION ARCHITECTURE

## SETTING UP MAXSCALE DB

E2E eliminated the problem of heavy load on the MySQL Master server and ceased frequent crashes and performance issues.



1

We created a stable setup without impacting performance or up-time.

- MaxScale provided the required read-write separation
- MaxScale proxy had minimal setup requirements and easy roll back option in case of failures.

2

We directed the user API requests to the MaxScale server.

- Assigned the database host IP from MySQL master to MaxScale proxy IP in code
- We got it deployed and working

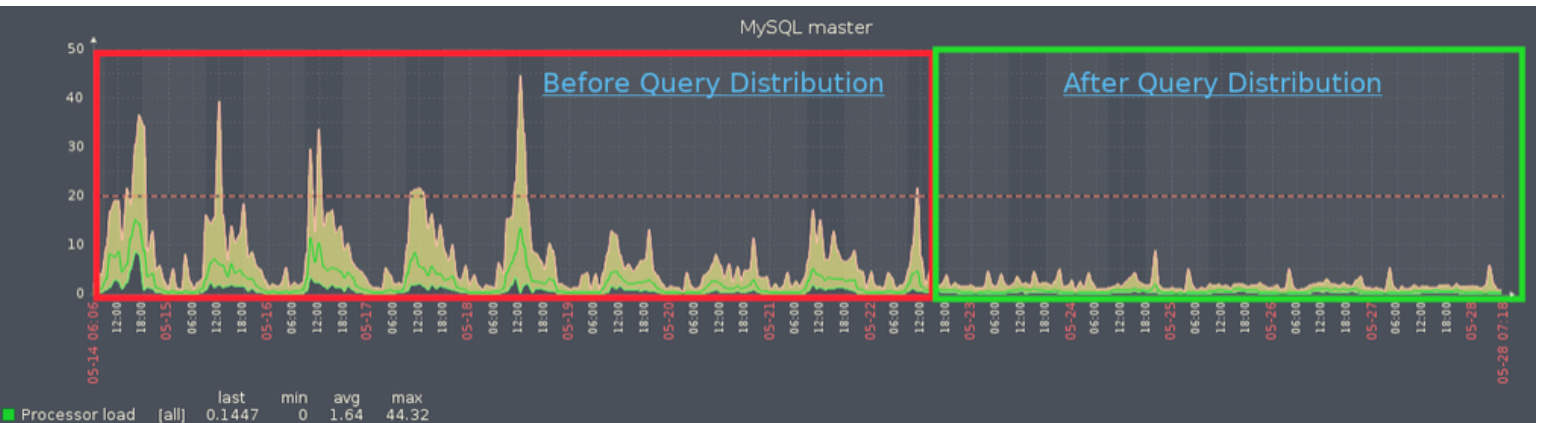
3

We made MaxScale up and running in staging

- We thoroughly tested it and checked its functionality
- Then, we pushed it to the production environment.

# THE OUTCOME

- The heavy read-intensive queries from API server are now served by a MySQL Slave server thus taking a chunk of considerable load from the Master server.



- The heavy read intensive queries from API server are now served by a MySQL Slave server thus taking a chunk of considerable load from the Master server.
- Setting up a MaxScale also provided an unforeseen benefit of providing Monitoring functionality of MySQL master and slave servers.
- In addition, MaxScale also have the functionality to redirect queries from MySQL Master server in case of lag (pre-defined 60 seconds lag time) or failure to MySQL Slave.

## E2E'S RECOMMENDATIONS

We recommend a highly available MaxScale setup so that it doesn't become a SPOF, although its absence will not affect the MaxScale functionality nor will enhance performance in any way.

## Contact Us -

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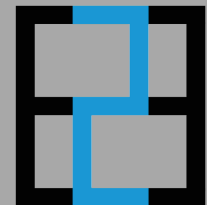
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