

Taming Monster Drupal Queries with Akiban



Common Drupal Performance Solutions

**Add Apache nodes
(or nginx)**

Caching

(memcached, varnish
et al)

MySQL Tuning

Bigger, Better Hardware



Sub Area/
Navigation

PAGE
Titles

A

D
PA/ENDITION

Helper/
Ajax

D

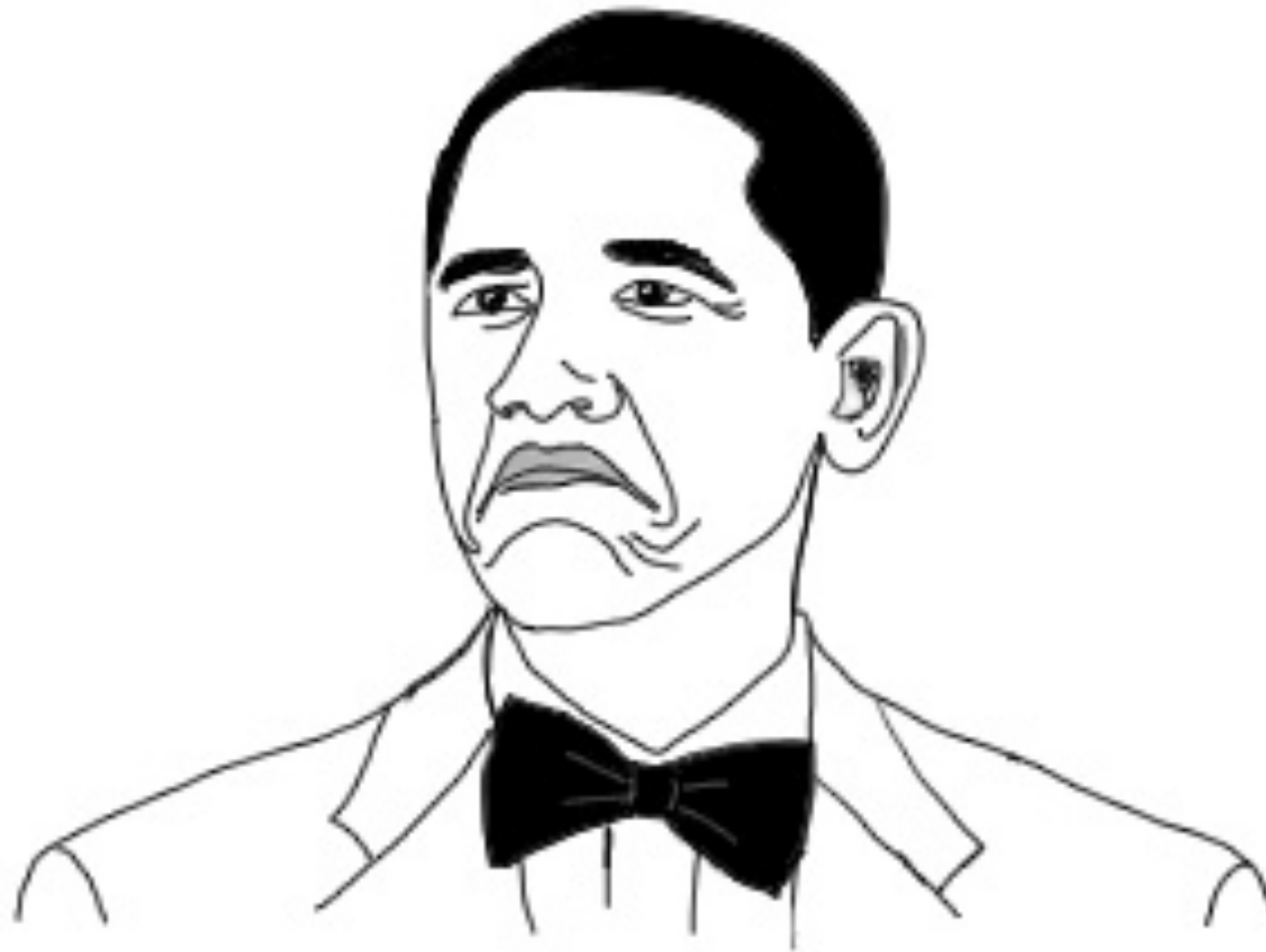
C

E

How to Scale MySQL?

MySQL Replication?

Send Read Queries to
Slave

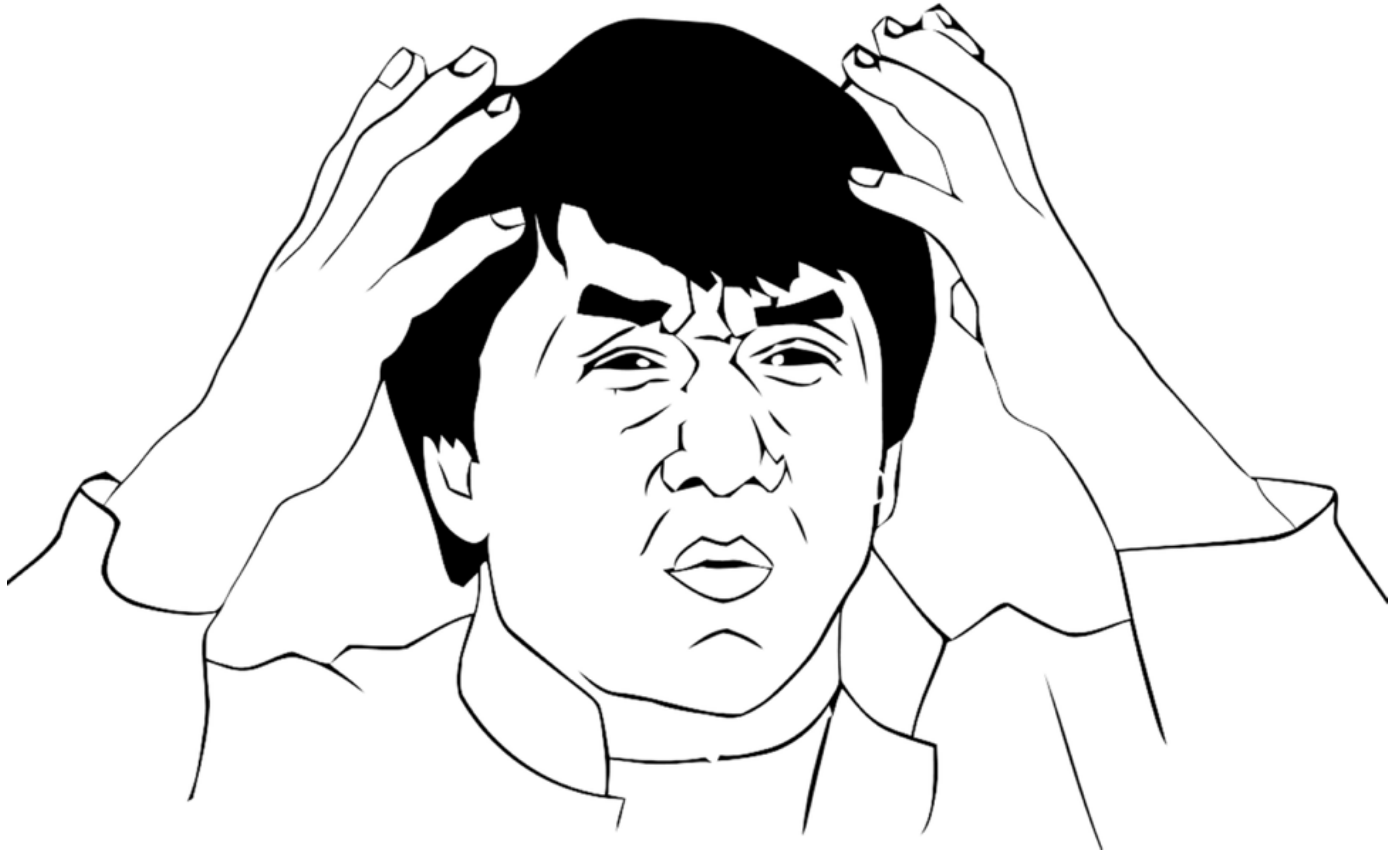


NOT BAD

What if Queries Still
Suck??

Temp Tables...

ON DISK



What's a Drupalist to Do?

Rewrite SQL on the Fly

Materialized Views

RAM Disk for MySQL Temp Tables



NoSQL?

Fault-tolerance

by @jrecursive



NewSQL?



What's a Drupalist to
do??

PSYCHIATRIC
HELP 5¢

Diagnosis?
Doomed!

THE DOCTOR
IS IN

AKIBAN

{AH - KEE - BAHN}

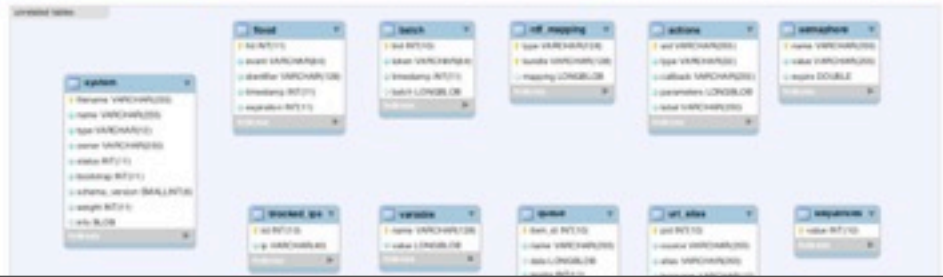
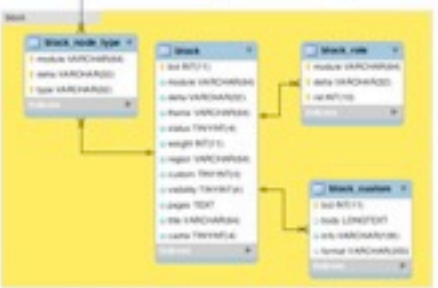
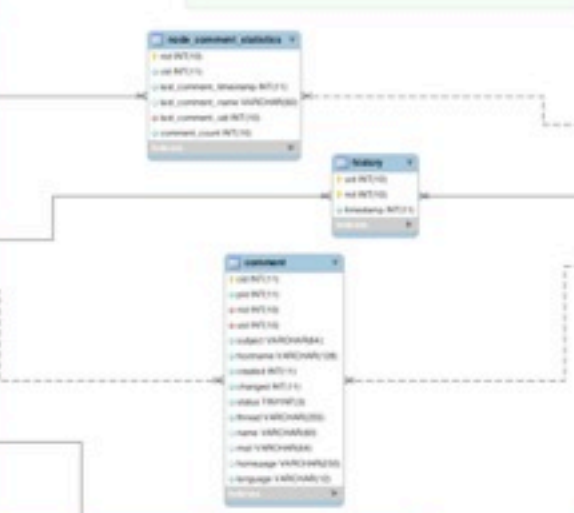
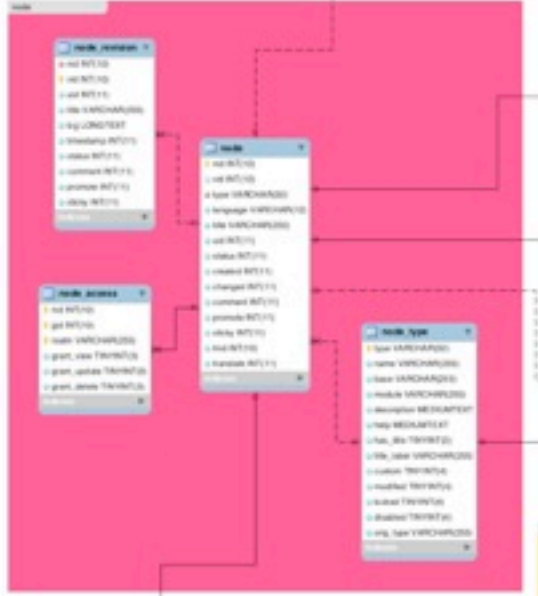
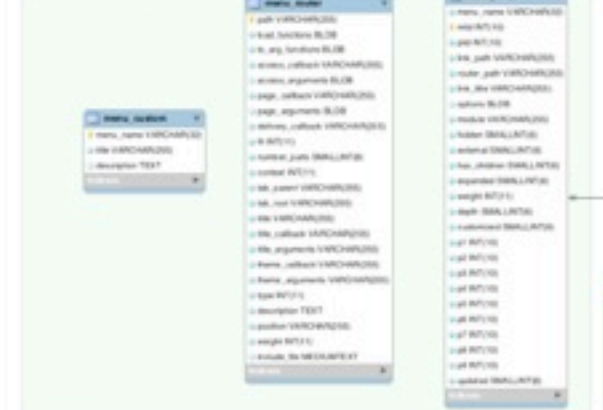


It's clobberin' time!

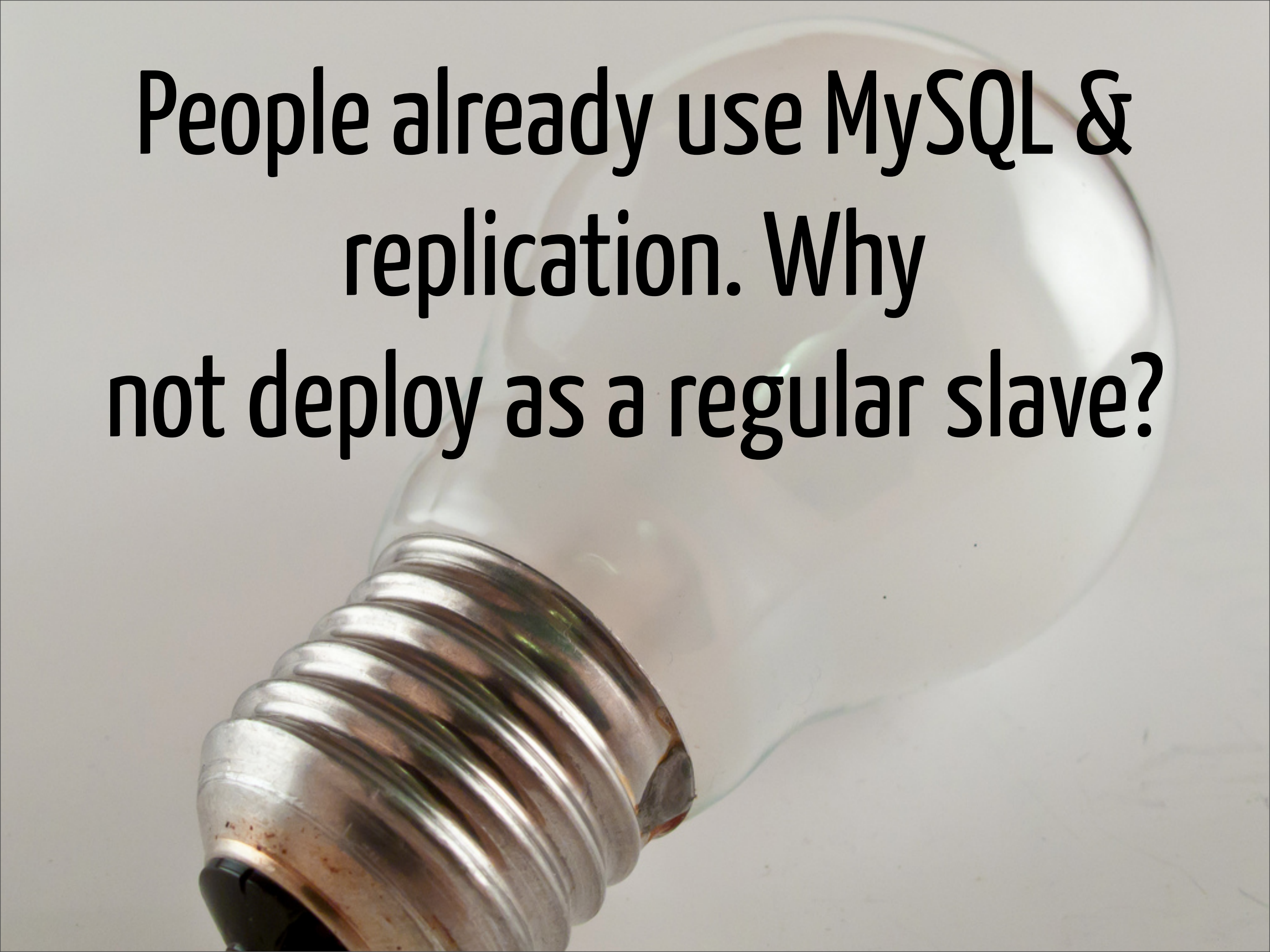
An entity
management system
with efficient SQL
access and a RESTful
API

Entities?





But I use MySQL?

A glowing lightbulb is shown in the background, with its filament visible. The lightbulb is the central focus of the image, and the text is overlaid on it. The text is in a bold, black, sans-serif font. The lightbulb is positioned diagonally, with the base in the bottom left and the top in the upper right. The background is a plain, light-colored surface.

**People already use MySQL &
replication. Why
not deploy as a regular slave?**

Akiban Adapter for MySQL

● Reads
● Writes

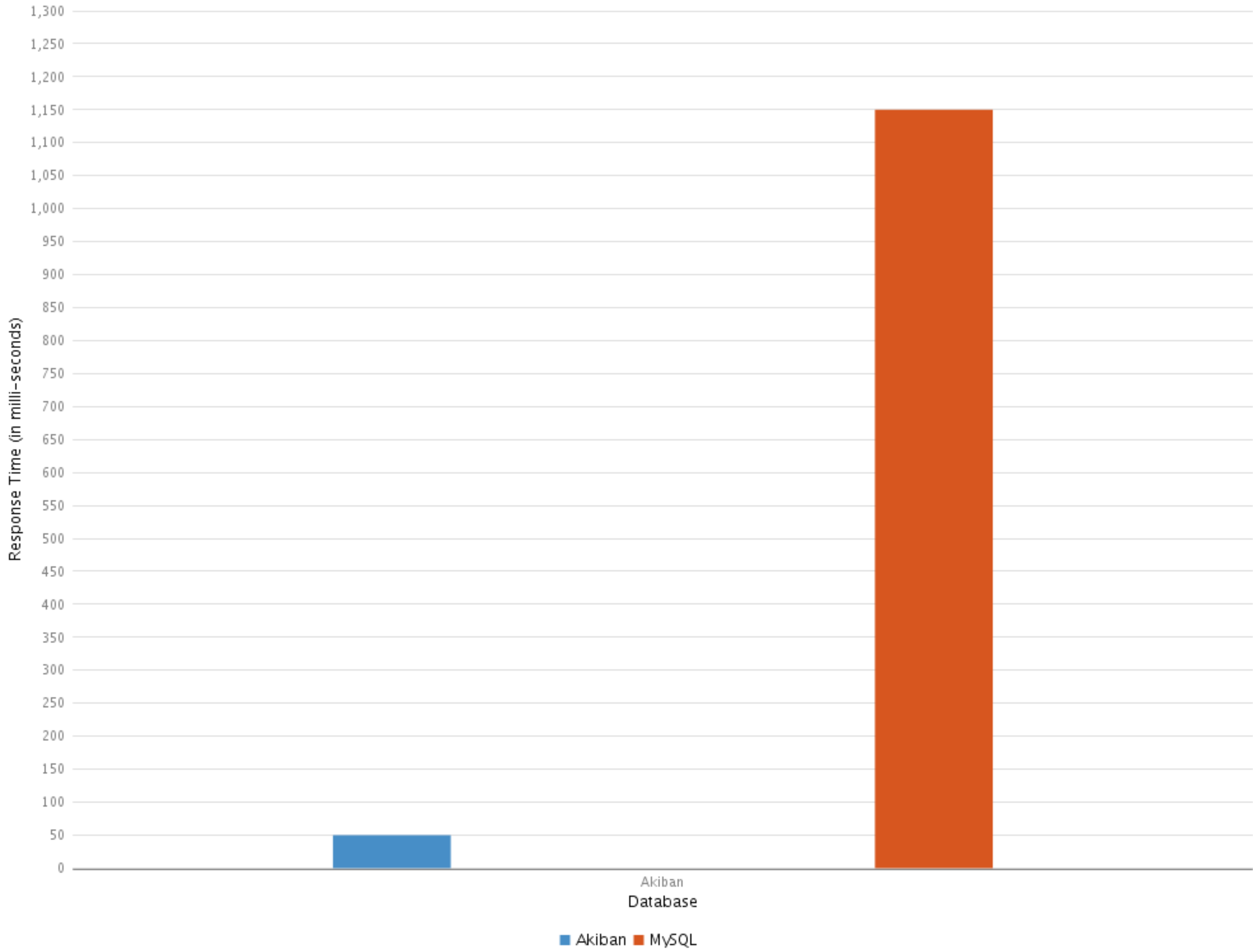


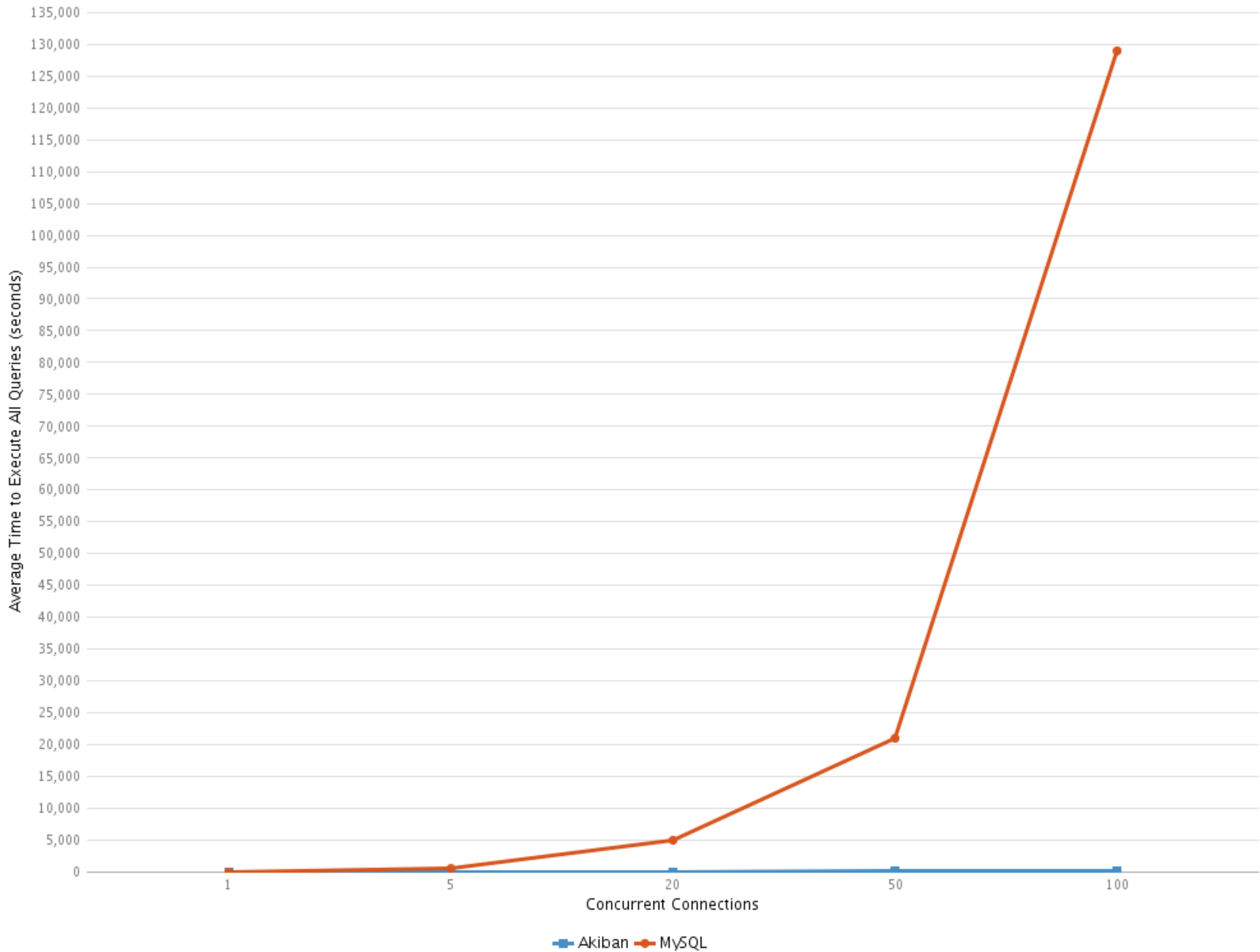
Akiban drupal.org DB module


```
$databases = array (
  'default' =>
  array (
    'default' =>
    array (
      'database' => 'drupal',
      'username' => 'drupal',
      'password' => 'drupal',
      'host' => 'localhost',
      'port' => '',
      'driver' => 'mysql',
      'prefix' => '',
    ),
    'slave' =>
    array (
      'database' => 'drupal',
      'username' => 'drupal',
      'password' => 'drupal',
      'host' => 'ec2-23-22-112-165.compute-1.amazonaws.com',
      'port' => '15432',
      'driver' => 'akiban',
      'prefix' => '',
    ),
  ),
);
```

```
$query = db_select(
  'search_index',
  'i',
  array('target' => 'slave')
)
->extend('SearchQuery')
->extend('PagerDefault');
```

```
SELECT DISTINCT node.title           AS node_title,
                node.nid             AS nid,
                node_comment_statistics.comment_count
                    AS node_comment_statistics_comment_count,
                node.created         AS node_created
FROM   node node
      INNER JOIN
      node_comment_statistics node_comment_statistics
          ON node.nid = node_comment_statistics.nid
WHERE  (( ( node.status = '1' )
AND ( node.comment IN ( '2' ) )
AND ( node.nid >= '111' )
AND ( node_comment_statistics.comment_count >= '2' ) ))
ORDER BY node_created ASC
LIMIT 50 offset 0
```



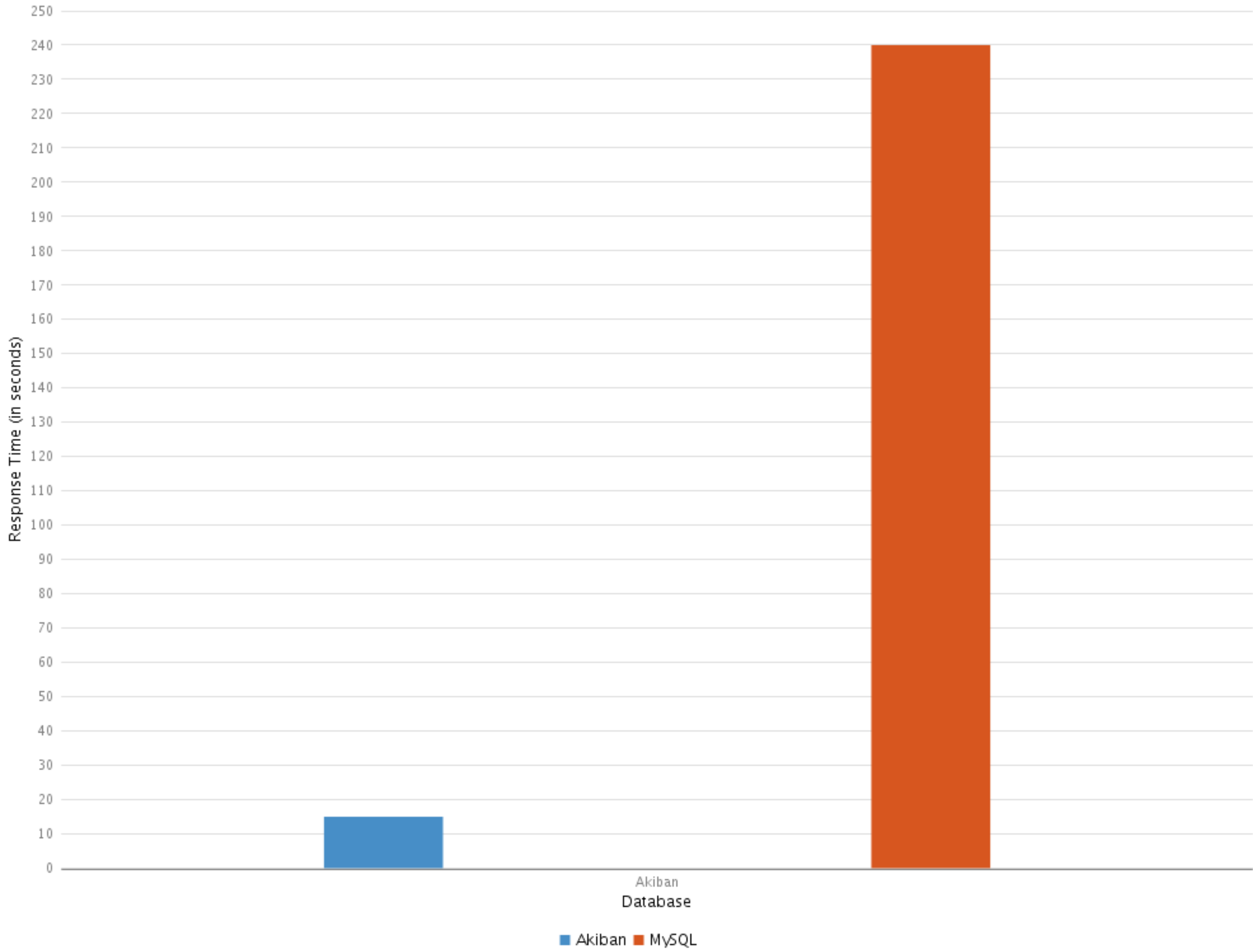


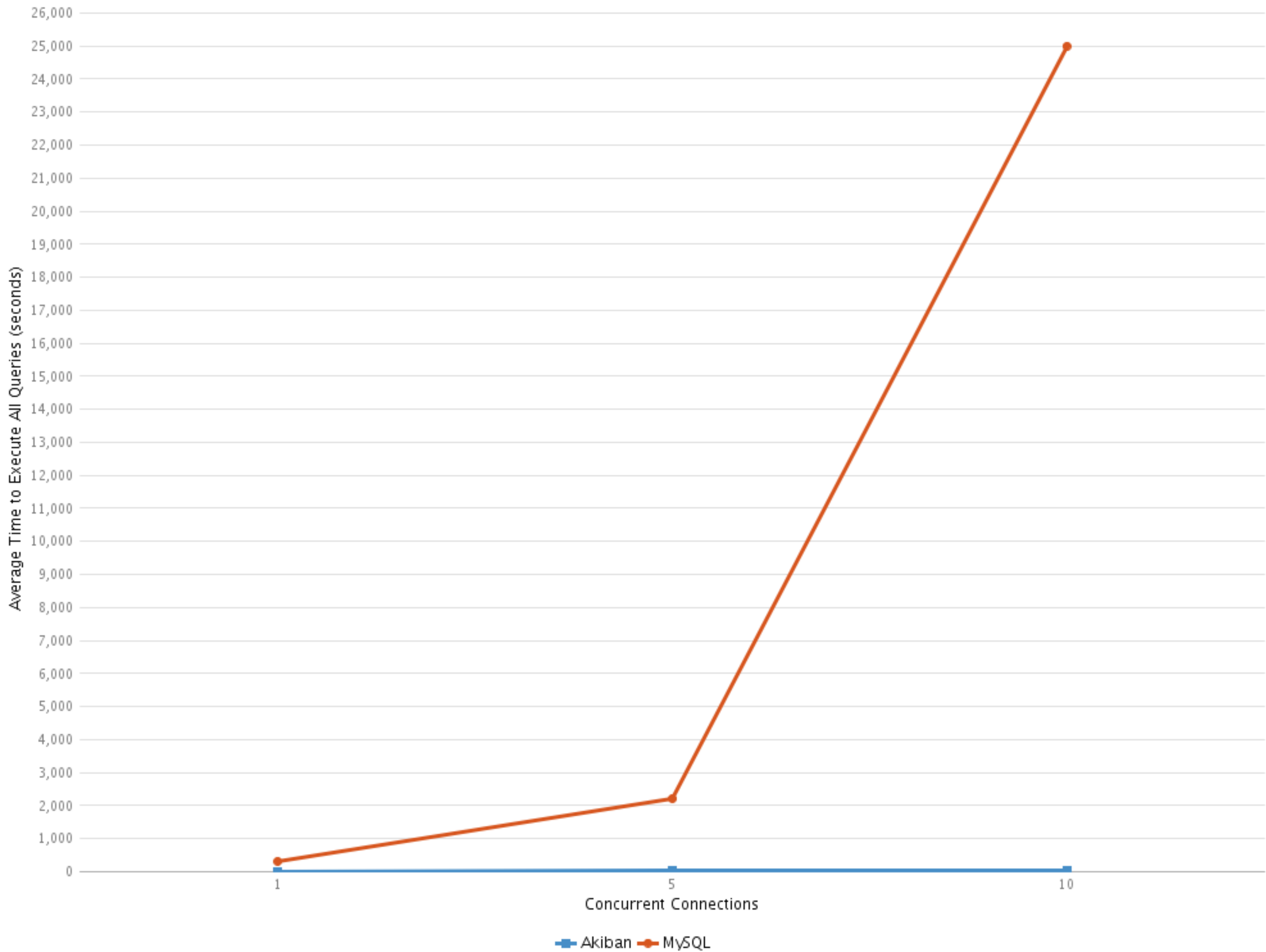
Real-World Production Deployments



Gofobo @ Acquia


```
SELECT u.name,
       gd.*,
       COUNT(gr.promo_nid) AS promotions,
       SUM(gr.passes)      AS passes,
       SUM(gr.attended)   AS attended,
       watch.date_added   AS watch
FROM   gofobo_rsvp gr
       INNER JOIN gofobo_demo gd
           ON gd.id = gr.demo_id
       INNER JOIN users u
           ON gd.uid = u.uid
       INNER JOIN content_type_promotion p
           ON p.nid = gr.promo_nid
       INNER JOIN content_type_screening cts
           ON cts.nid = p.field_screening_nid
       LEFT JOIN gofobo_report_watch watch
           ON gd.uid = watch.uid
WHERE  gr.released <> 1
       AND cts.field_screening_date_value BETWEEN
       '2011-06-22T19:35:32' AND '2011-12-22T19:35:32'
GROUP BY gr.demo_id
ORDER BY passes DESC
LIMIT 0, 25
```



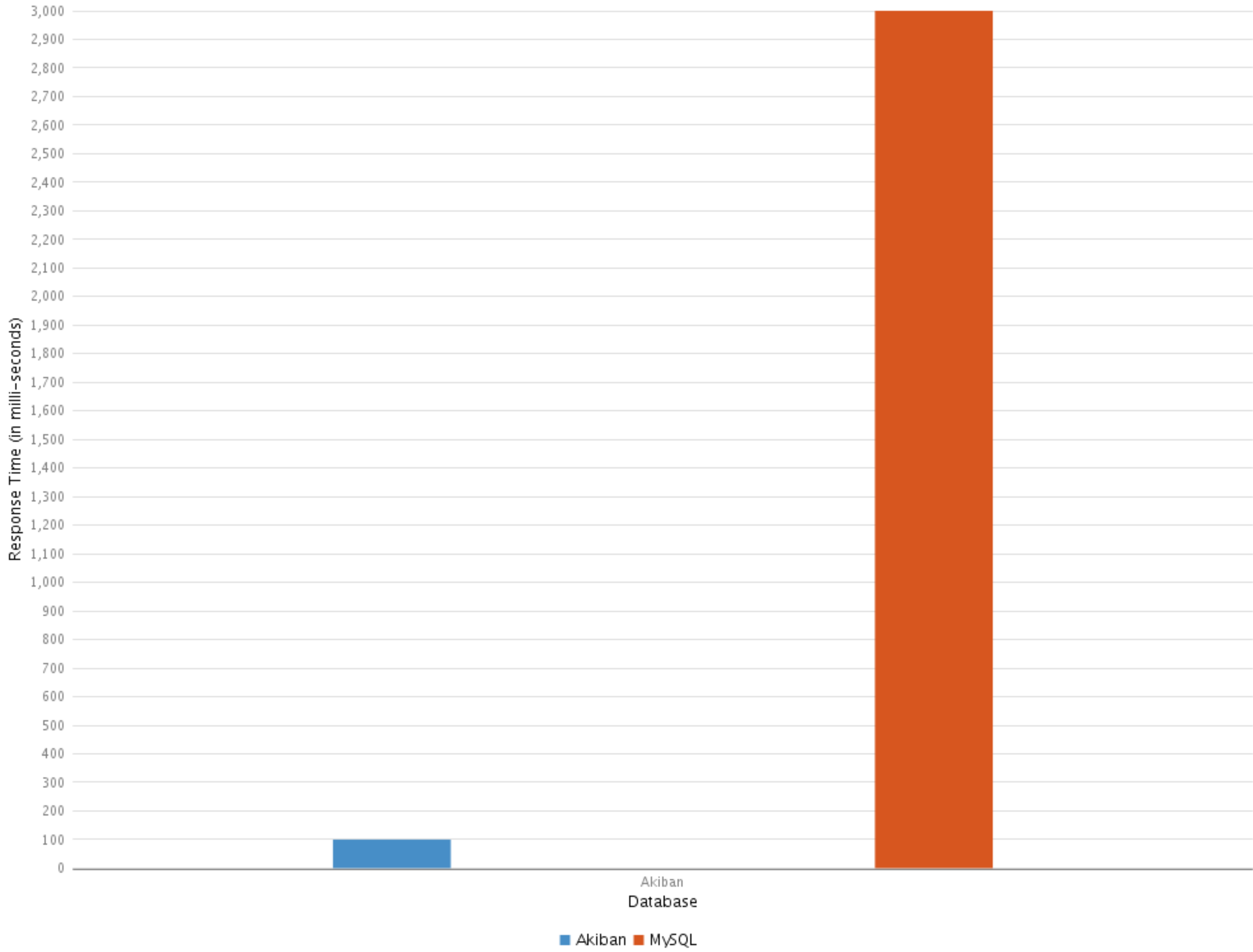


DOOR3 on AWS

```

SELECT DISTINCT node.nid AS nid,
node.language AS node_language,
node.title AS node_title,
node.created AS node_created,
node.type AS node_type,
node.vid AS node_vid,
users.uid AS users_uid,
users.name AS users_name,
users_extend.first_name AS users_extend_first_name,
users_extend.last_name AS users_extend_last_name,
node_comment_statistics.comment_count
AS node_comment_statistics_comment_count,
(SELECT Count(cio_customfield_f.id)
FROM dru_flag cio_customfield_f
WHERE cio_customfield_f.module = 'node'
AND cio_customfield_f.type = 'like'
AND cio_customfield_f.id = node.nid)
AS cio_customfield_node_like_n1,
node_counter.totalcount AS node_counter_totalcount,
...
node_data_field_video.field_video_version
AS node_data_field_video_field_video_version,
FROM dru_node node
INNER JOIN dru_users users
ON node.uid = users.uid
INNER JOIN dru_users_extend users_extend
ON node.uid = users_extend.uid
INNER JOIN dru_node_comment_statistics node_comment_statistics
ON node.nid = node_comment_statistics.nid
LEFT JOIN dru_node_counter node_counter
ON node.nid = node_counter.nid
LEFT JOIN dru_content_field_document node_data_field_document
ON node.vid = node_data_field_document.vid
LEFT JOIN dru_content_type_podcast node_data_field_podcast
ON node.vid = node_data_field_podcast.vid
LEFT JOIN dru_content_field_slideshow node_data_field_slideshow
ON node.vid = node_data_field_slideshow.vid
LEFT JOIN dru_content_field_video node_data_field_video
ON node.vid = node_data_field_video.vid
LEFT JOIN dru_content_field_doc node_data_field_doc
ON node.vid = node_data_field_doc.vid
WHERE node.status <> 0
ORDER BY node_created DESC
LIMIT 0, 60

```



Non-Drupal Production Deployments

Future Work



Running Drupal Entirely on Akiban

Akiban as a Service



Thank
you!

@posulliv

posulliv.github.com