

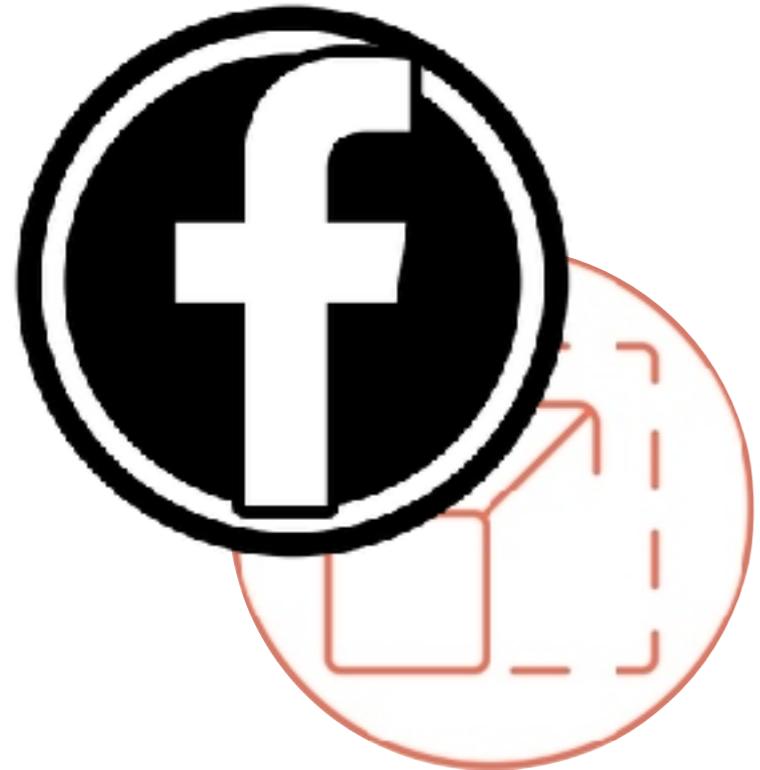
SCALABILITY

FACEBOOK

INTRODUCTION

NEWS FEED





SCALABILITY NEWSFEED

PROBLEM & SOLUTIONS

What's on your mind?

Attach: Share

Mark Slee Almost everything is intriguing or beautiful in super-slow motion. This video is no exception. (If you are impatient, skip to 3:30 and start there.)

ONOMASTICA
Source: vimeo.com
music video Title: ONOMASTICA Artist: Offlaga Disco Pax
Director: Marco Molinelli (Postodellefragole) Dop: Giovanni Trollo extended version (6 min.)
www.postodellefragole.com

2 hours ago · Comment · Like · Similar Posts · Share

Naomi Gleit, Keith Adams, Luke Shepard and 27 others like this.

Chad Little Morning News ftwl
5 hours ago

Write a comment...

Benjamin Golub Java's after Where the Wild Things Are

Yesterday at 10:01pm · Comment · Like · Similar Posts · Share

2 people like this.

View all 4 comments

Request

7 friends

8 events

1 group

Sug

Spons

Hipster

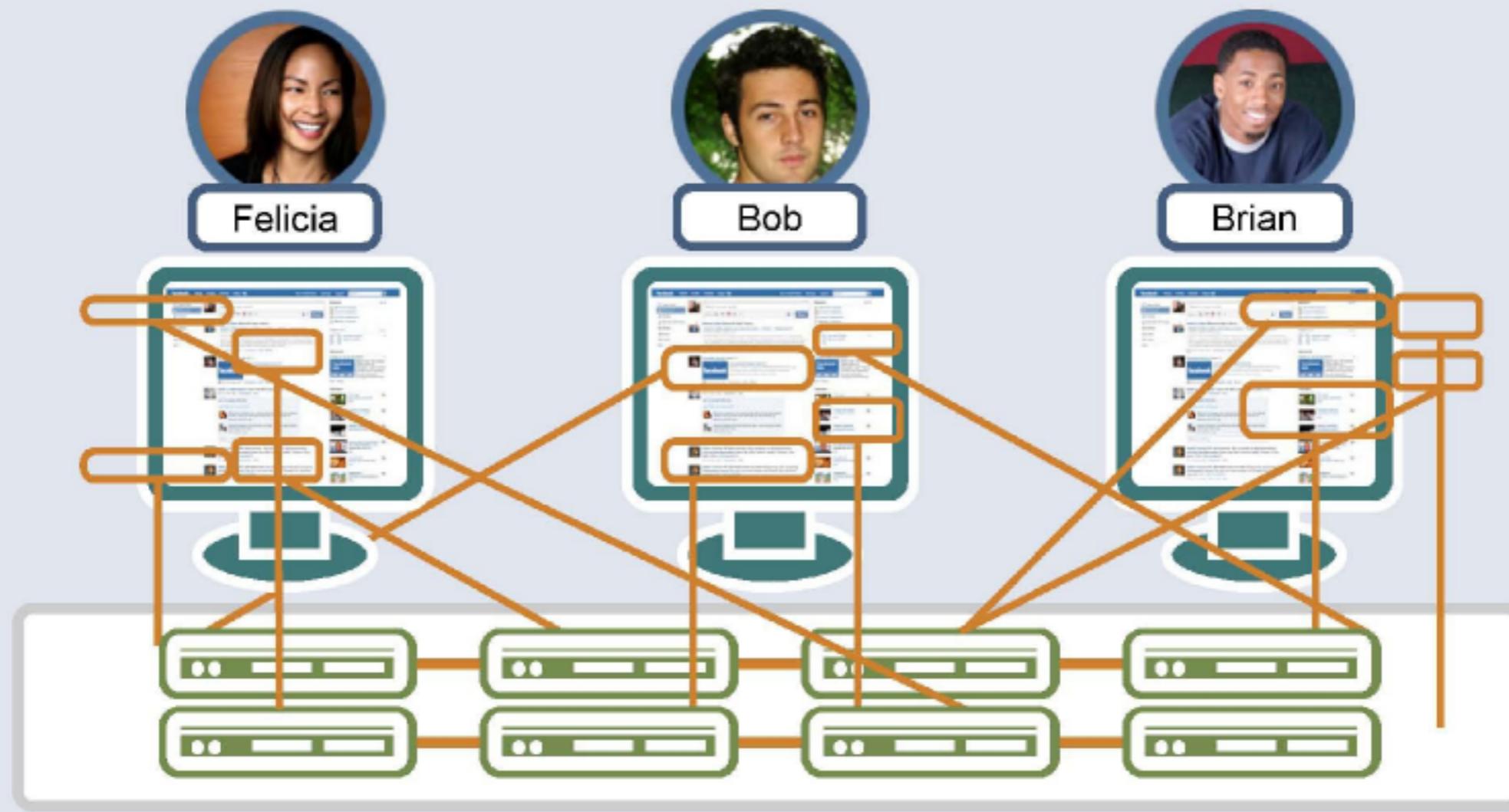
Like Athalie like this

Highli

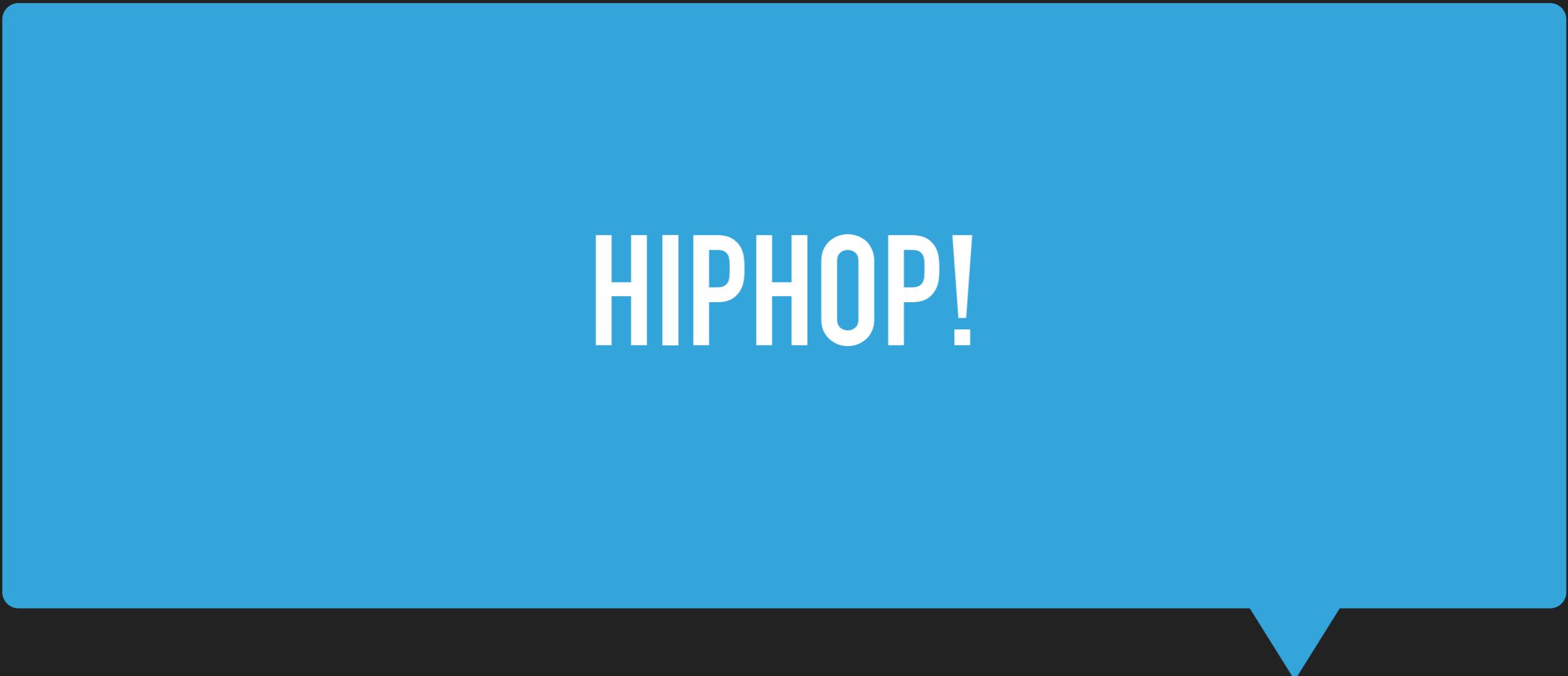
News Feed

400 million unique home pages

Scaling Facebook: Interconnected data



HIPHOP!

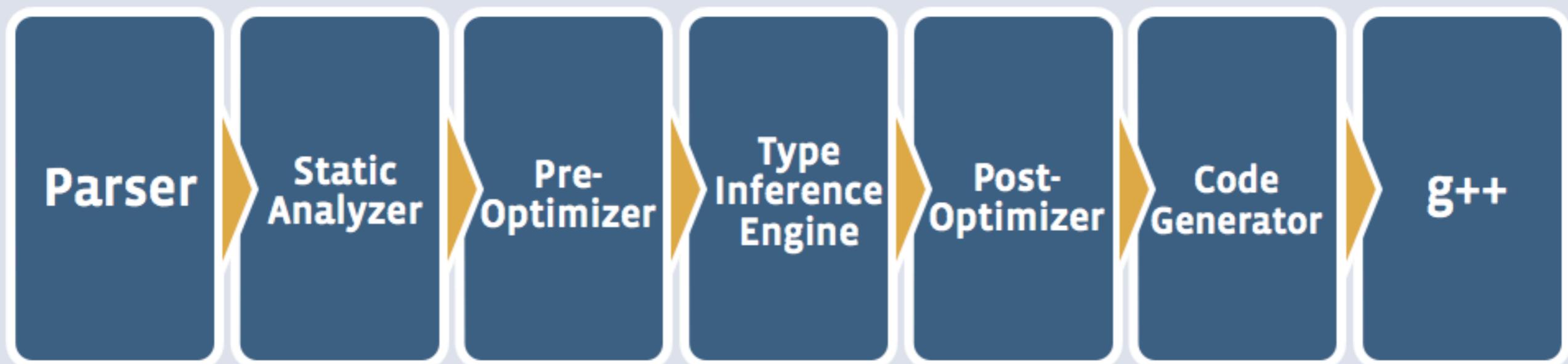


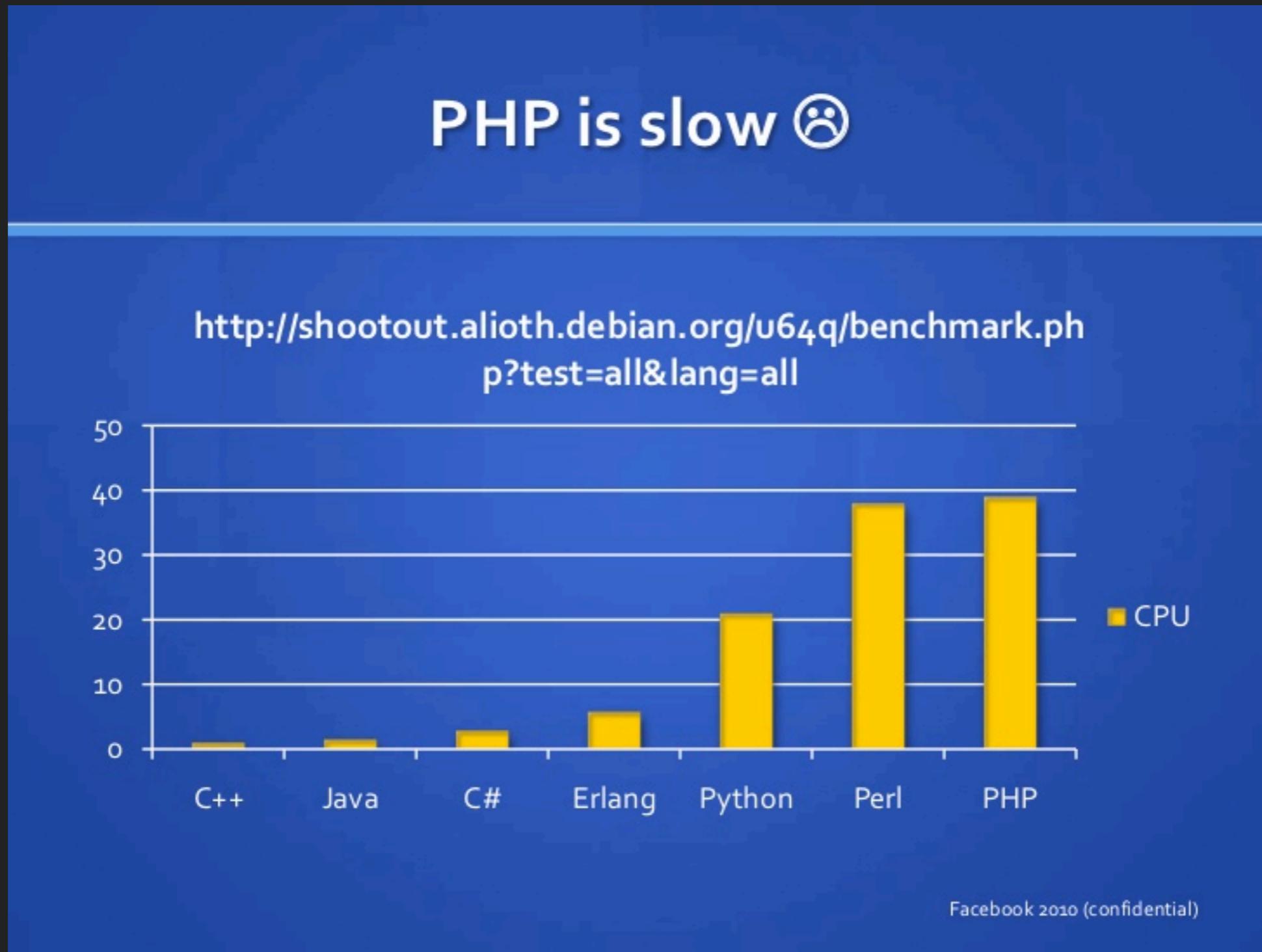
SOLUTION #1

SOLUTION 1



HipHop for PHP transformation process





DENORMALIZATION!



SOLUTION #2

Denormalization table

Shipping

Id	name
1	TIKI
2	JNE

Address

Id	name
1	Jakarta
2	Depok

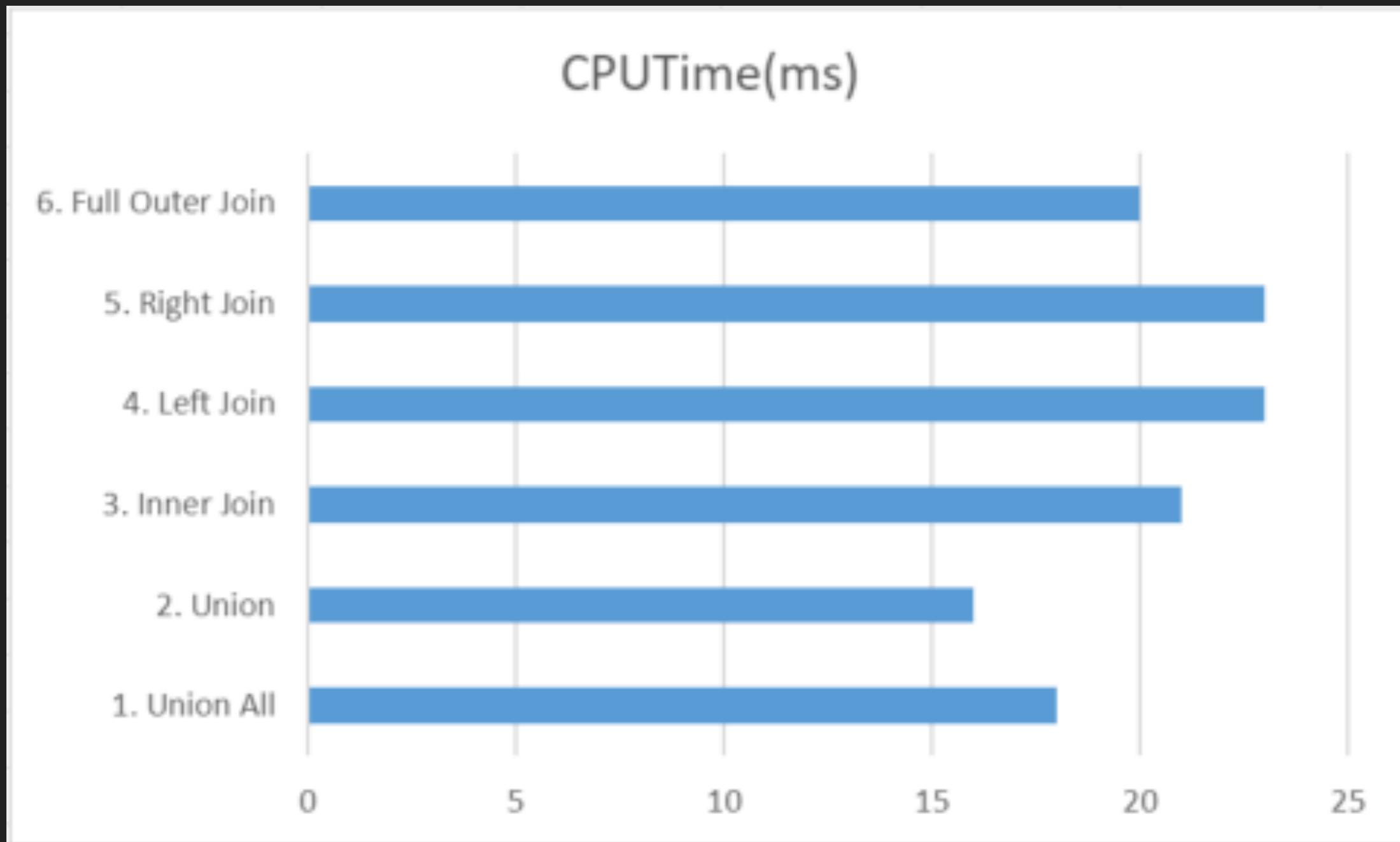
item

Id	name
1	Shoes
2	Handphone

Order_id	Order_date	Shipping_name	Address_name	Item_name
12010	2016/05/26	TIKI	Jakarta	Handphone
12011	2016/05/26	TIKI	Depok	Handphone

Still, denormalization brings the danger of update anomalies back to the database. Therefore, you have to do it deliberately. You should document any denormalization thoroughly.

DECREASE JOIN OVERHEAD

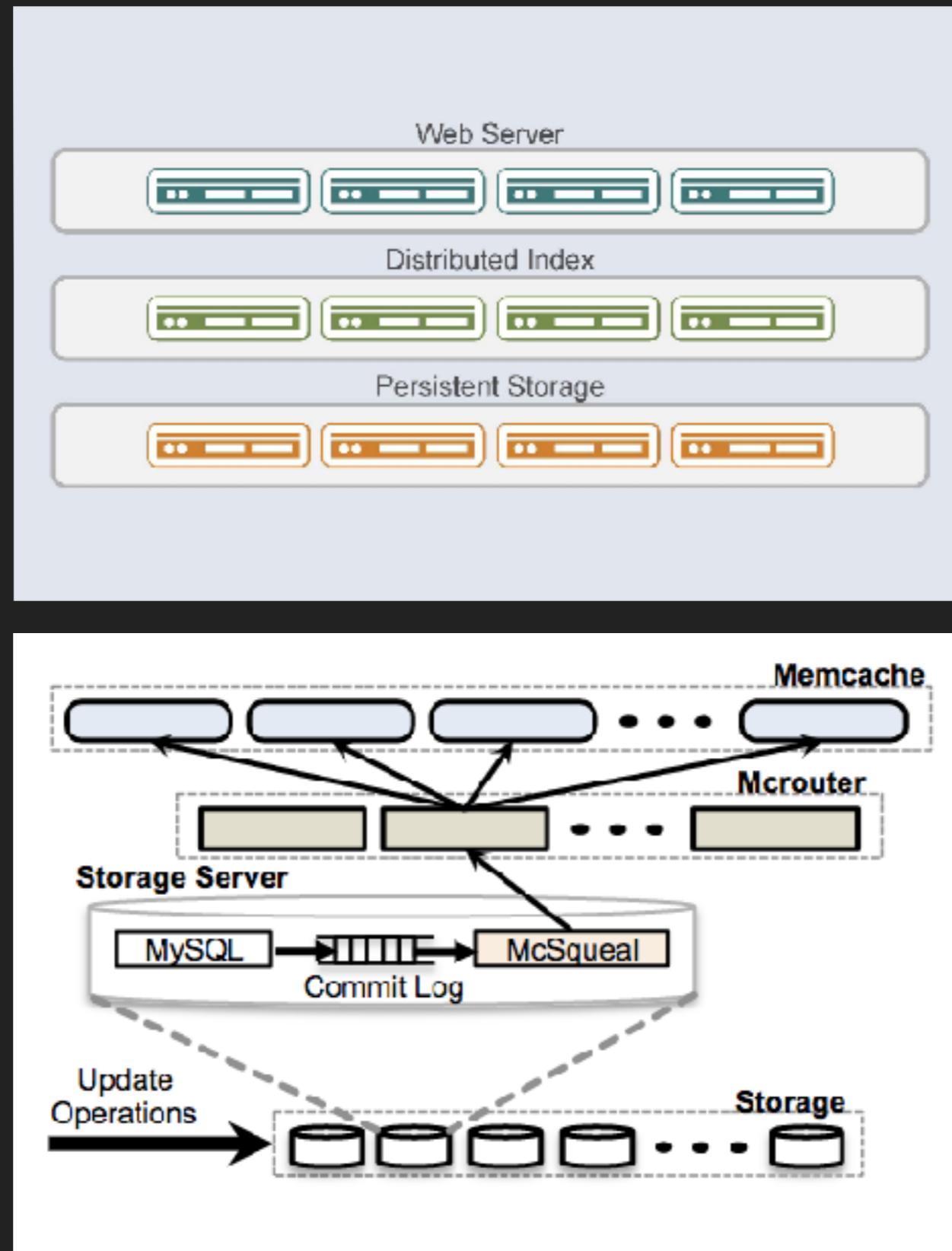


MEMCACHE!



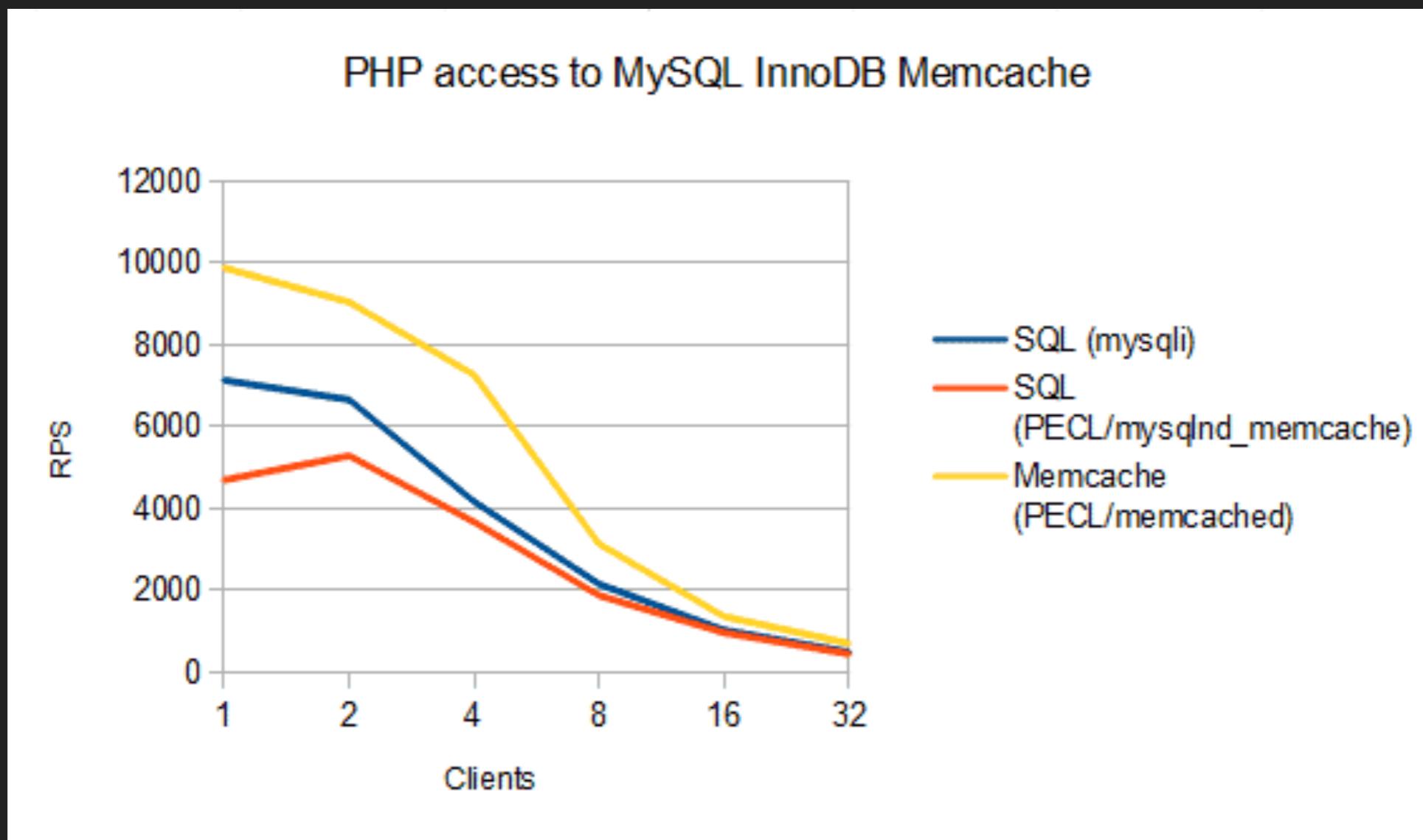
SOLUTION #3

SOLUTION 3



SOLUTION 3

FASTER!

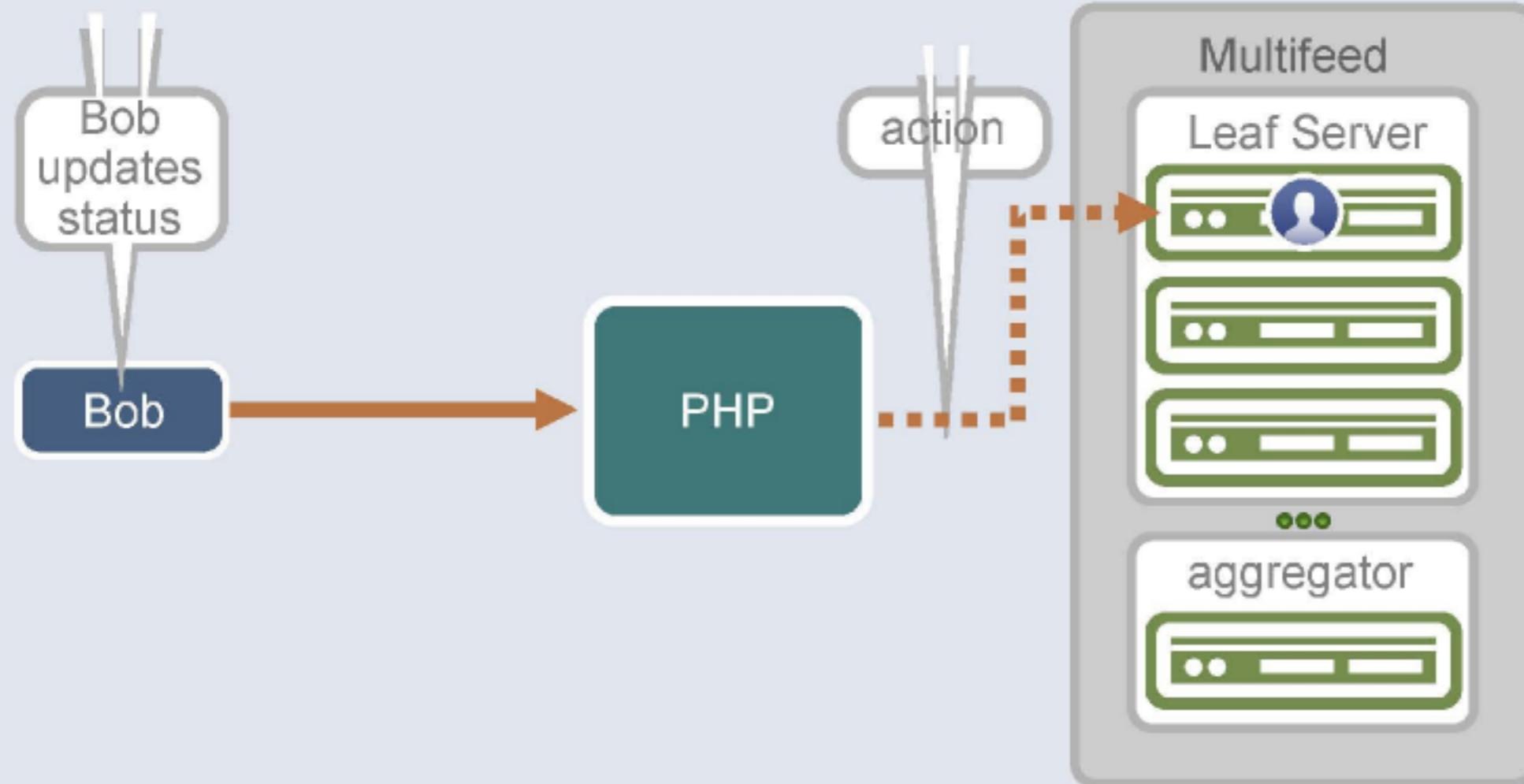


DISTRIBUTED VIRTUAL FEED STORAGE!

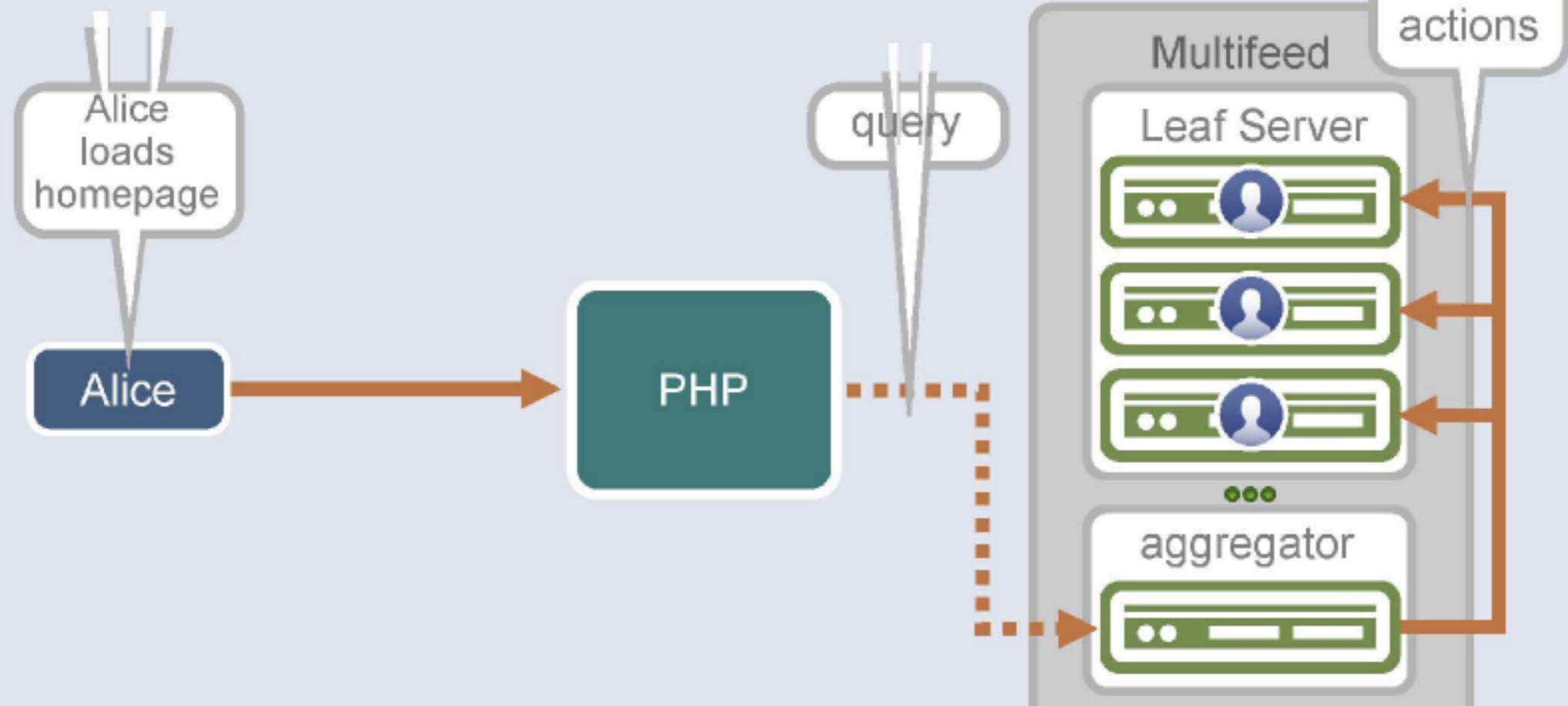


SOLUTION #4

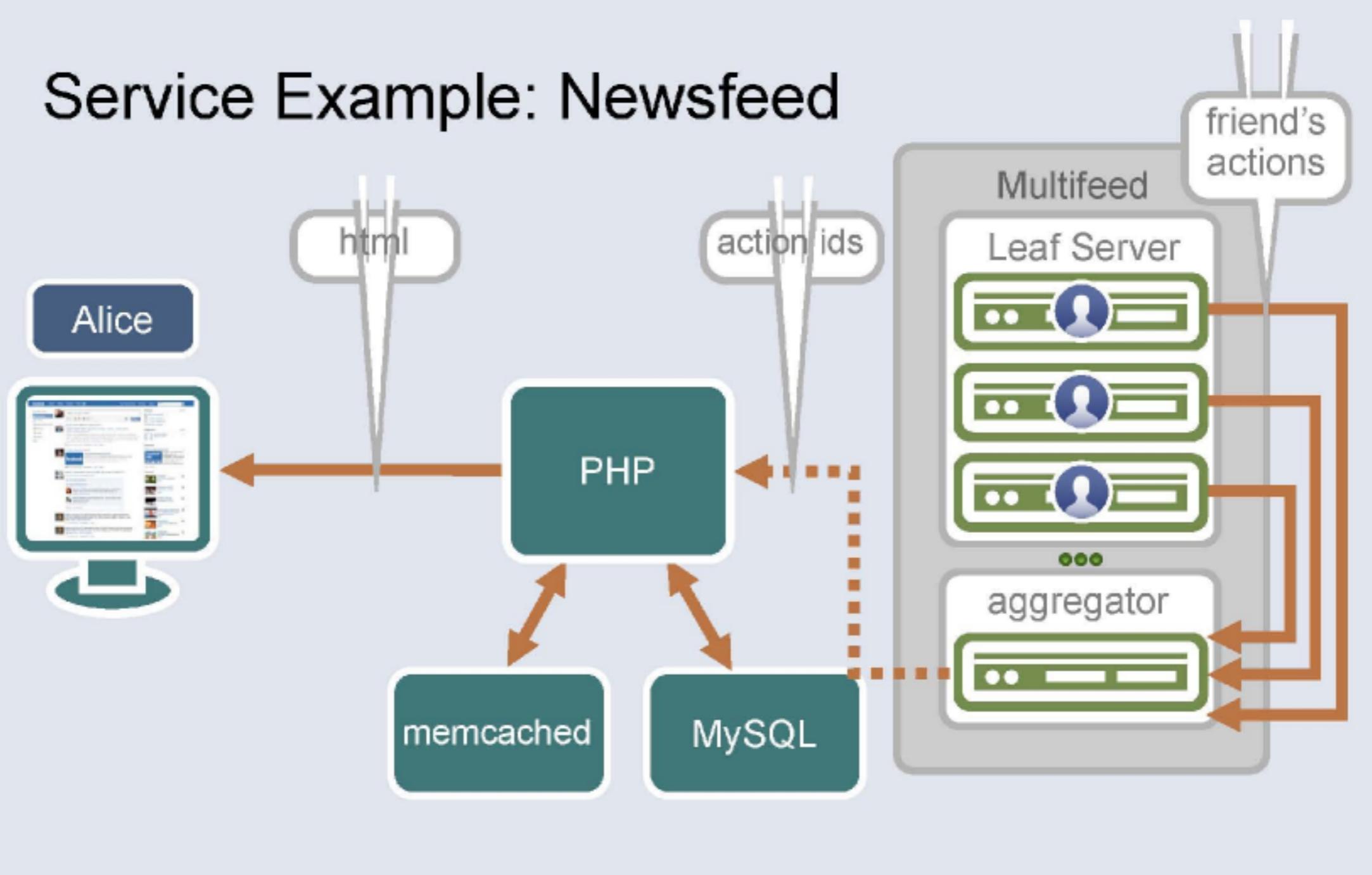
Service Example: Newsfeed

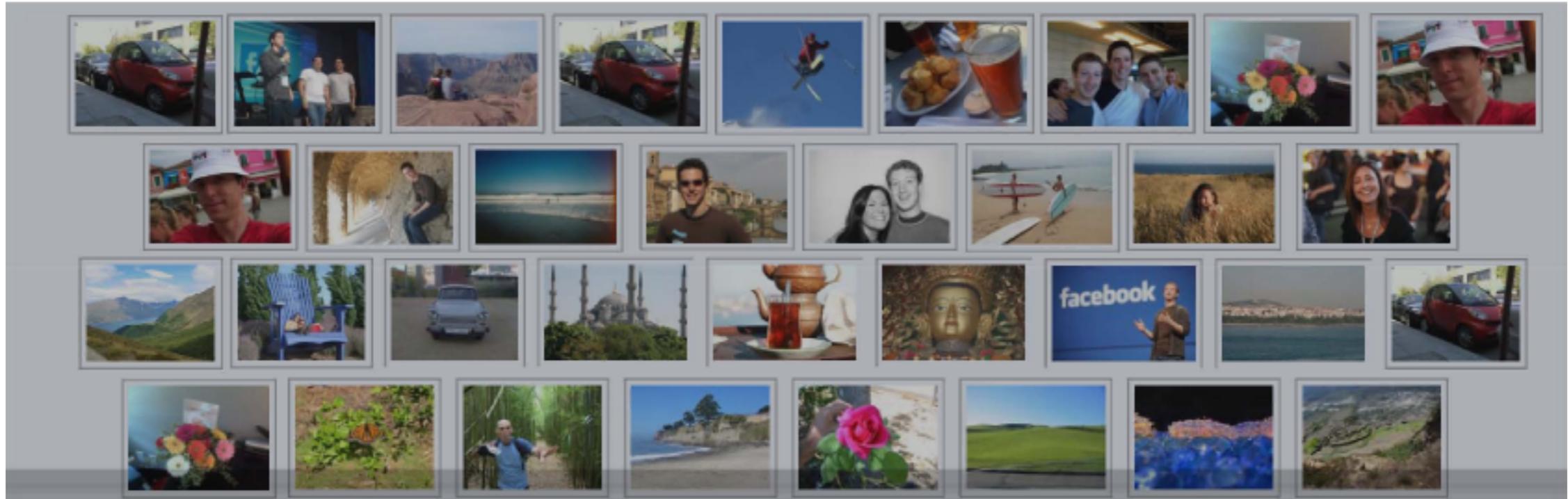


Service Example: Newsfeed

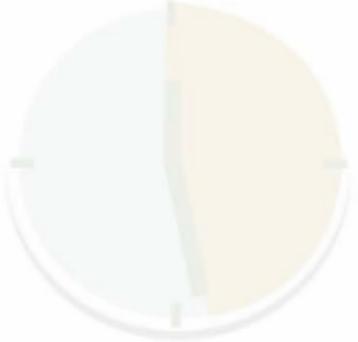


Service Example: Newsfeed





Over 3 billion photos uploaded each month

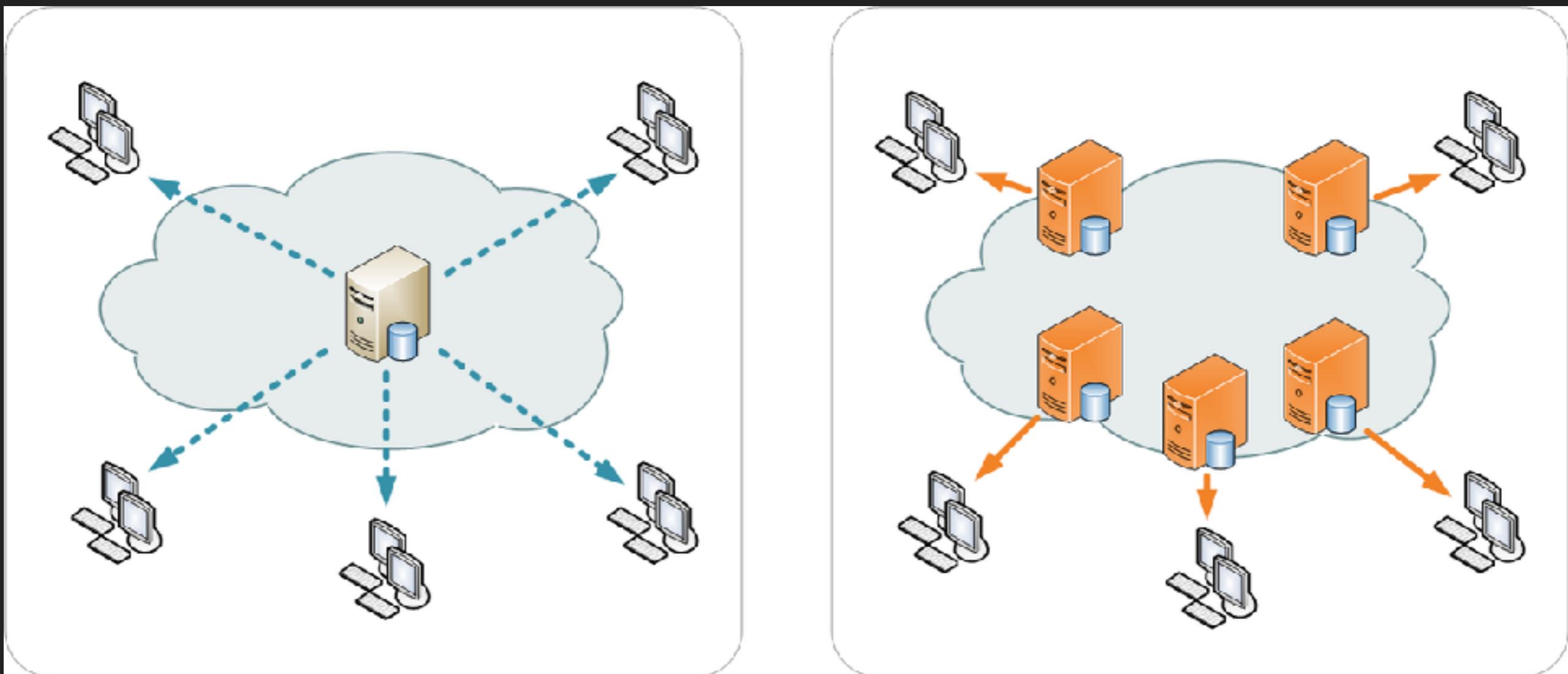


CLOUD DELIVERY NETWORK!



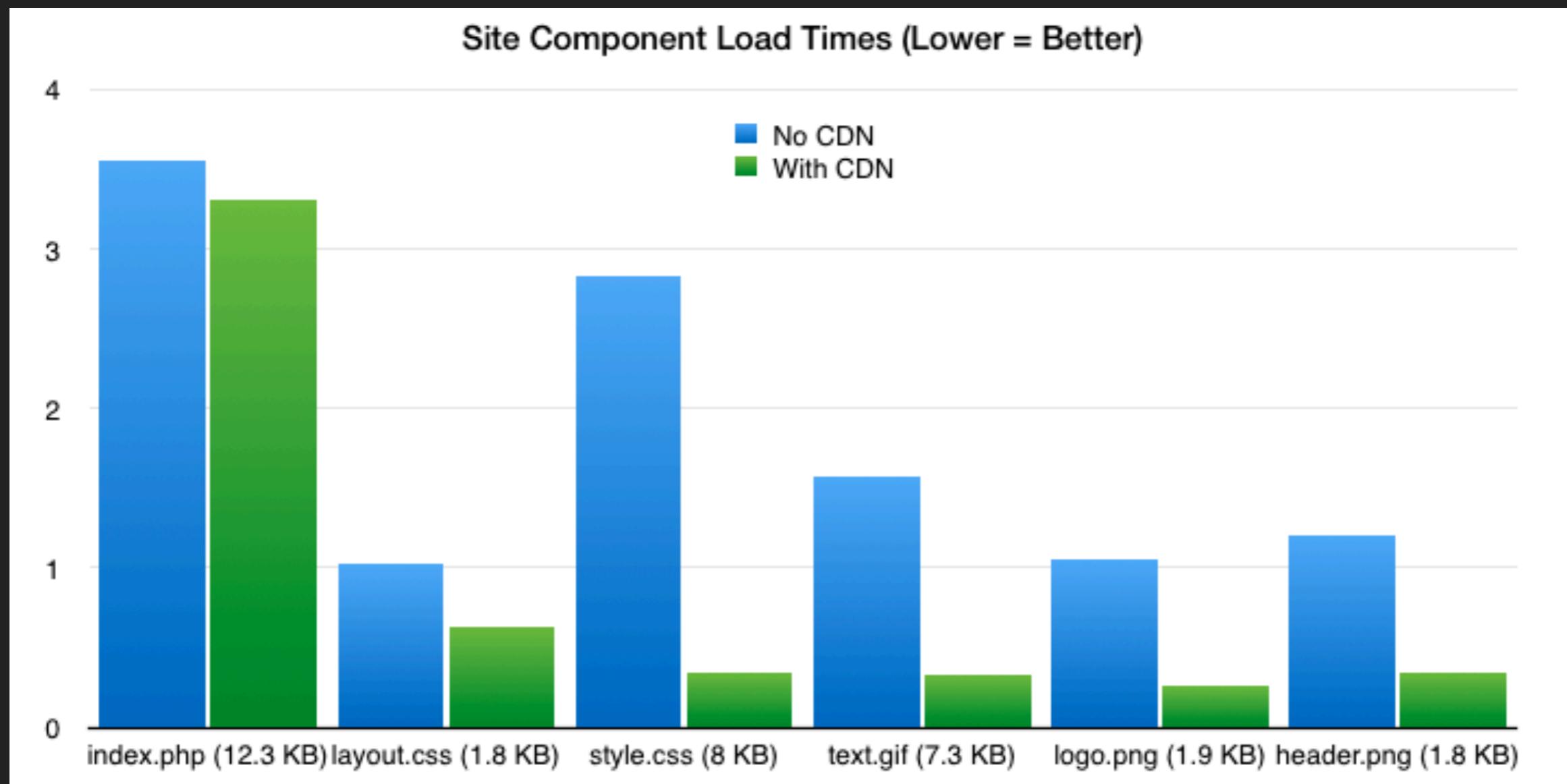
SOLUTION #5

SOLUTION 5



SOLUTION 5

FASTER!





database availability



SCALABILITY AND HIGH AVAILABILITY DATABASE

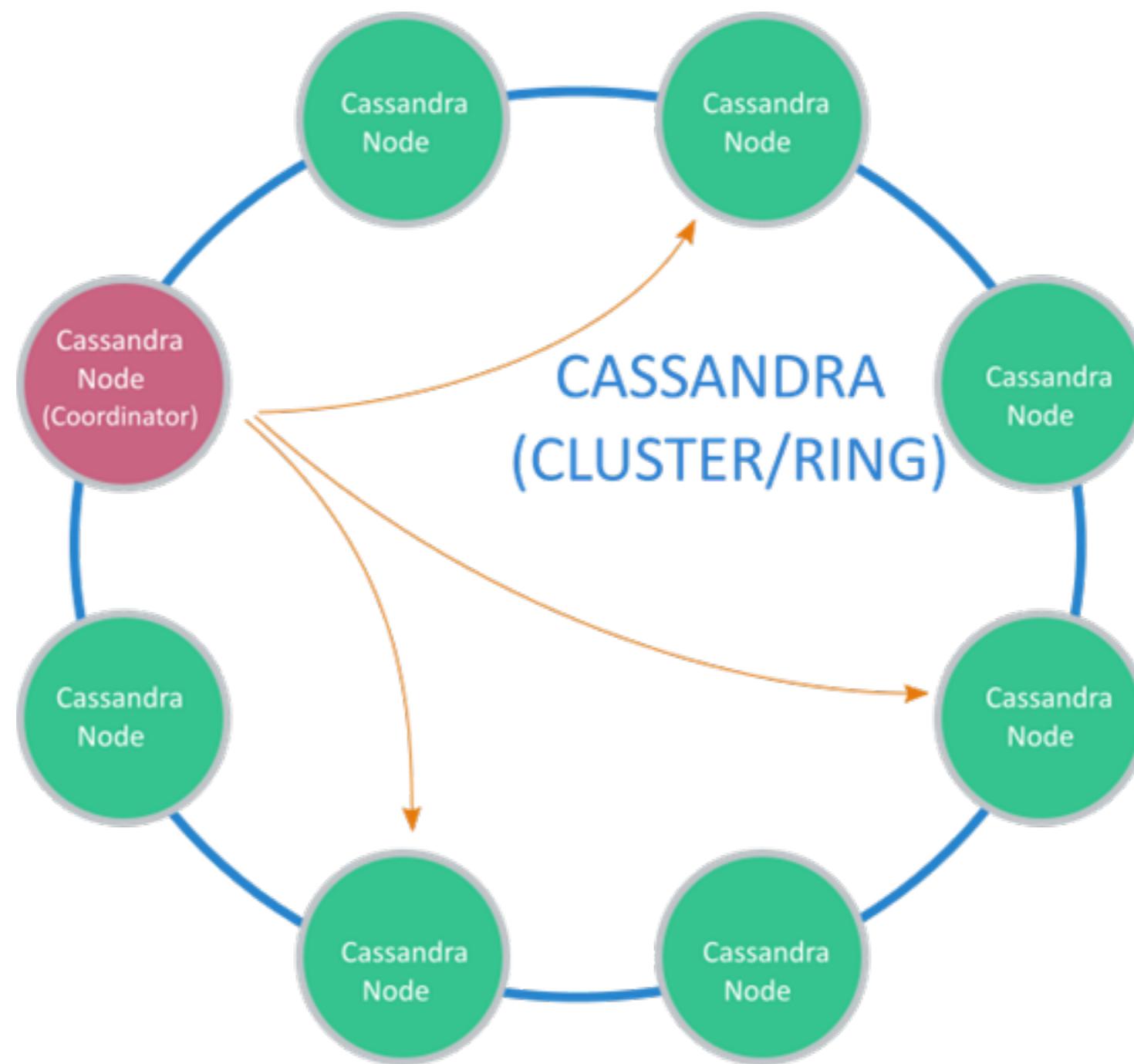


SOLUTION #6

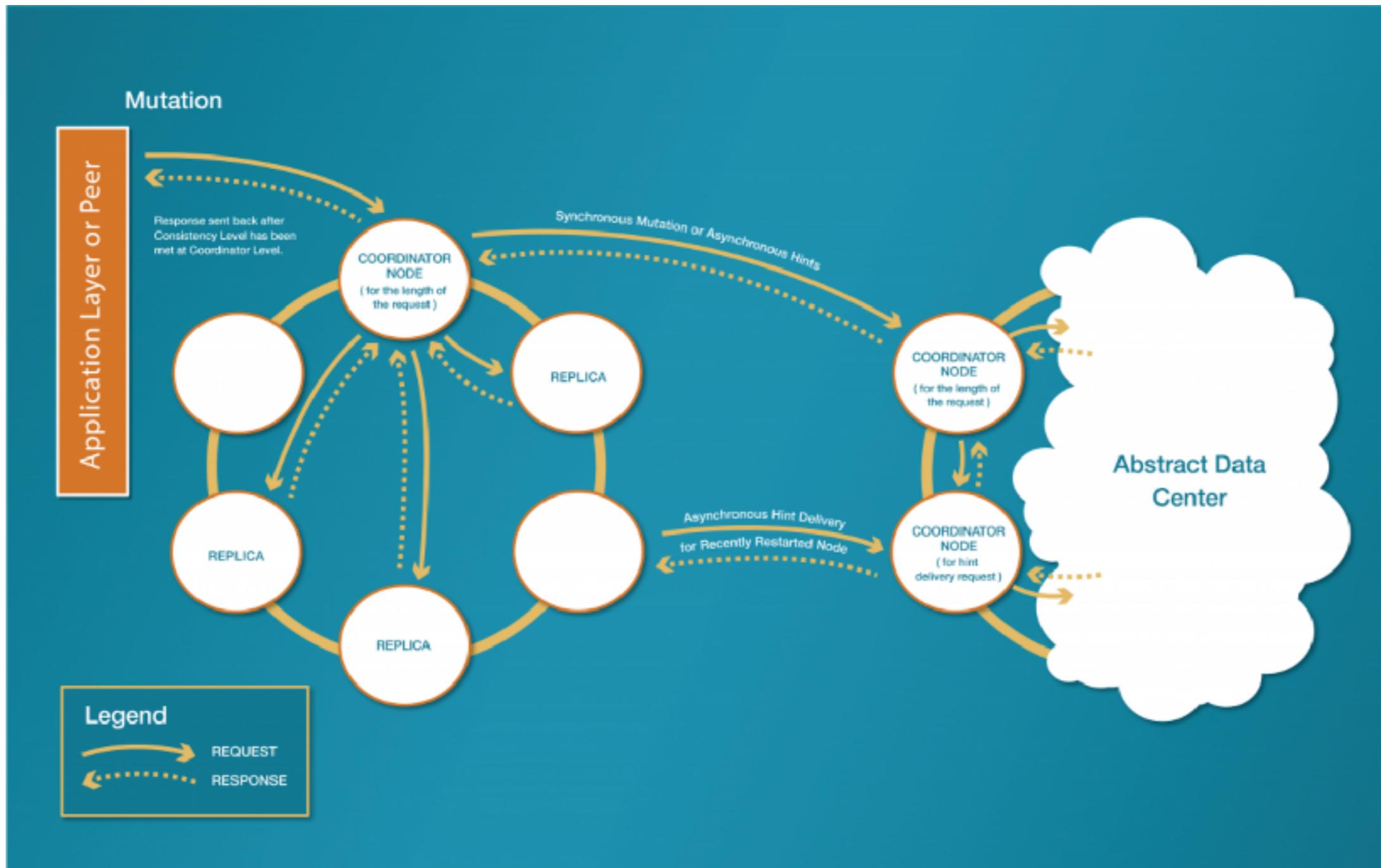
SOLUTION 6



SOLUTION 6



SCALABLE & PROVEN FAULT-TOLERANCE!

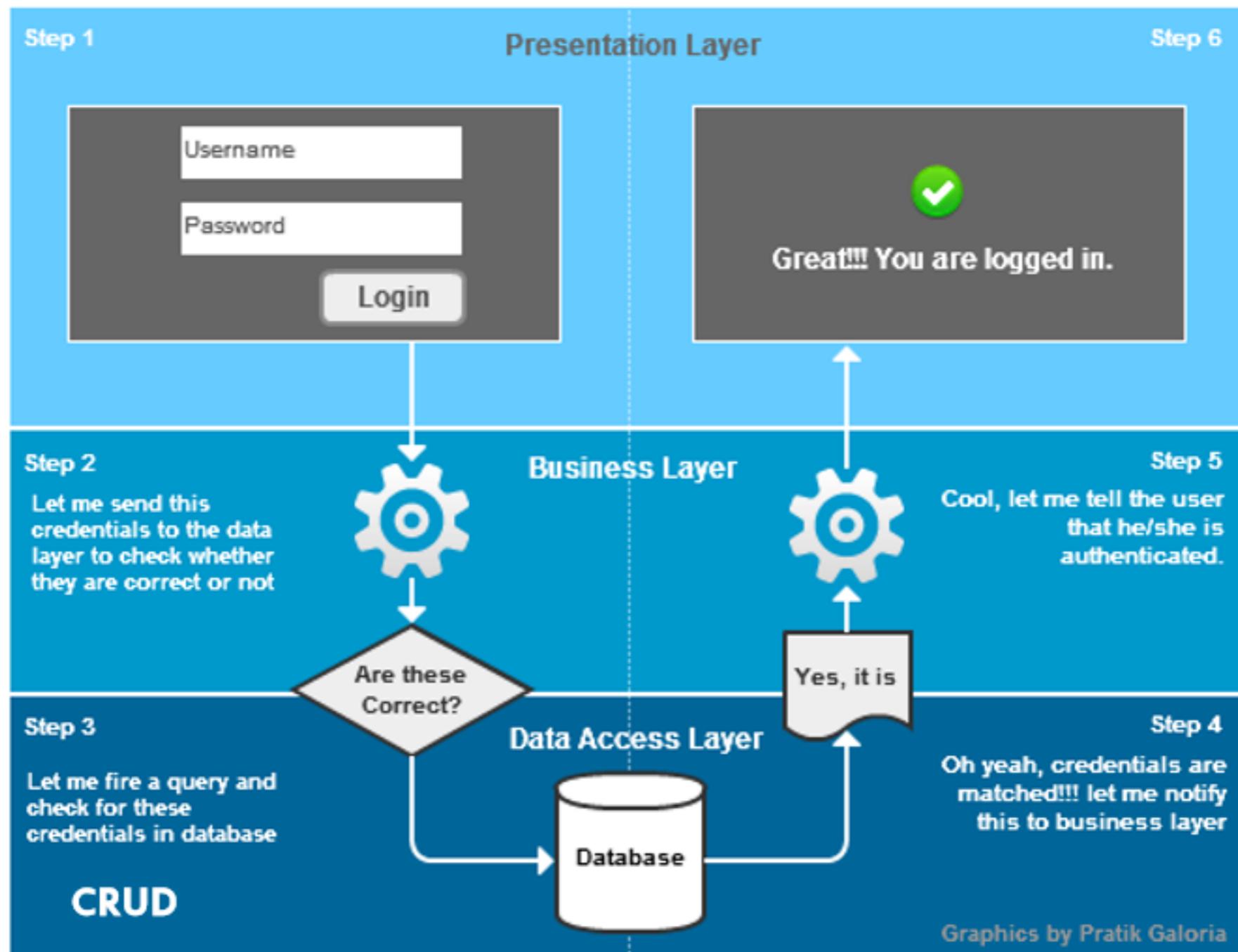




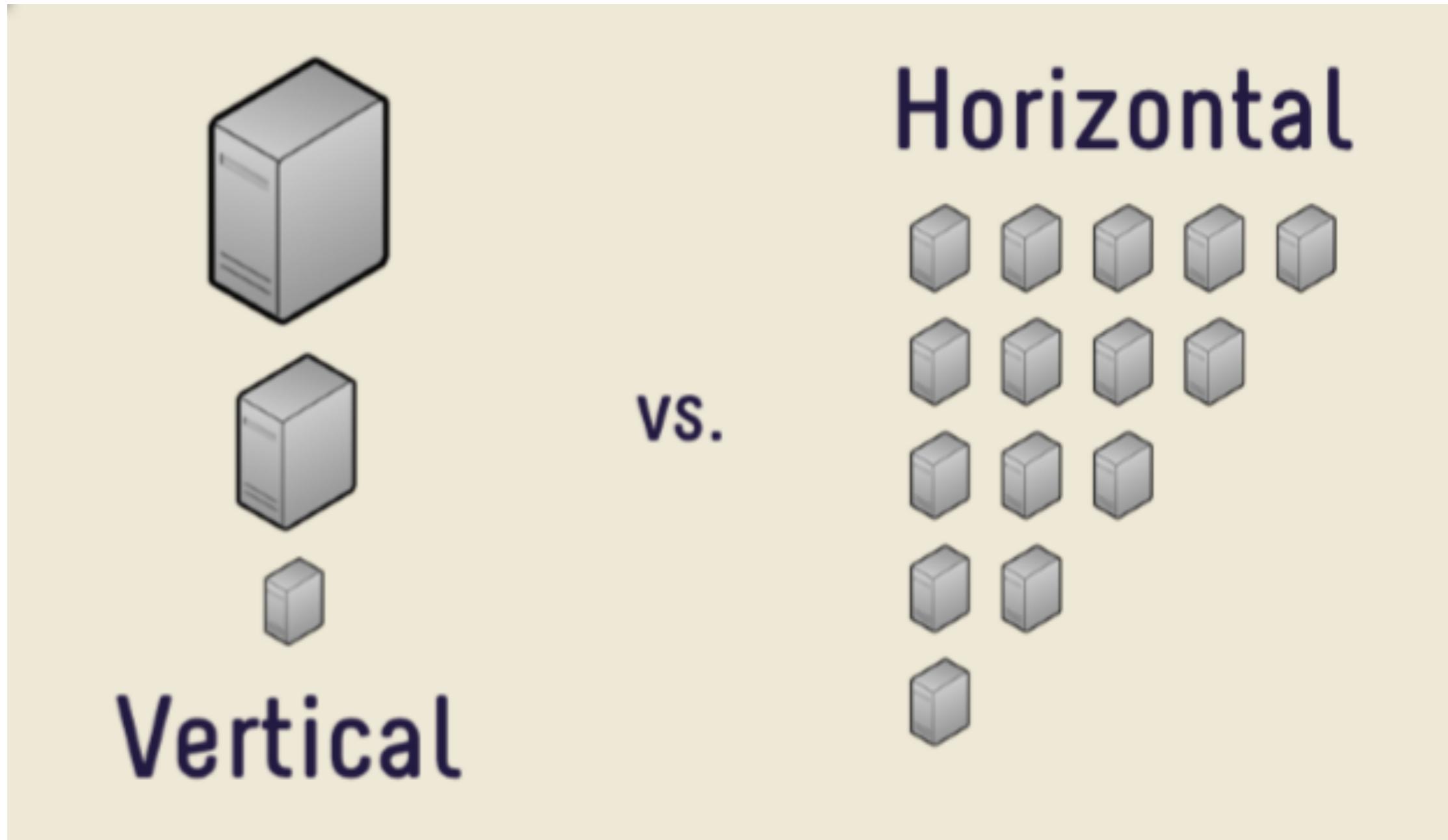
OPERATING SYSTEM 2

COURSE RELATED

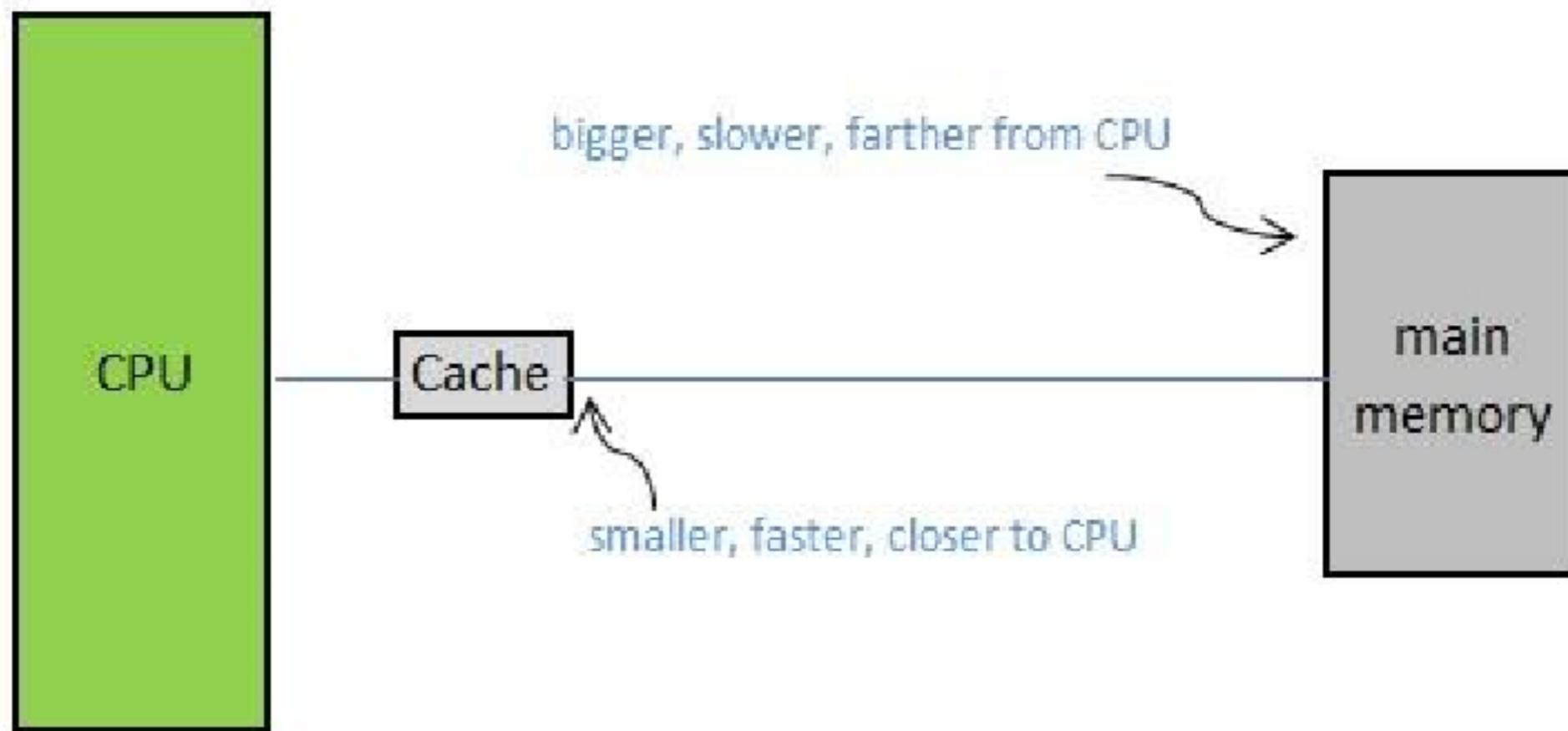
REVISITED THREE-TIER WEB ARCHITECTURE



HORIZONTAL SCALING



CACHING



C1	C2	C3	C4
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—

Relational data model

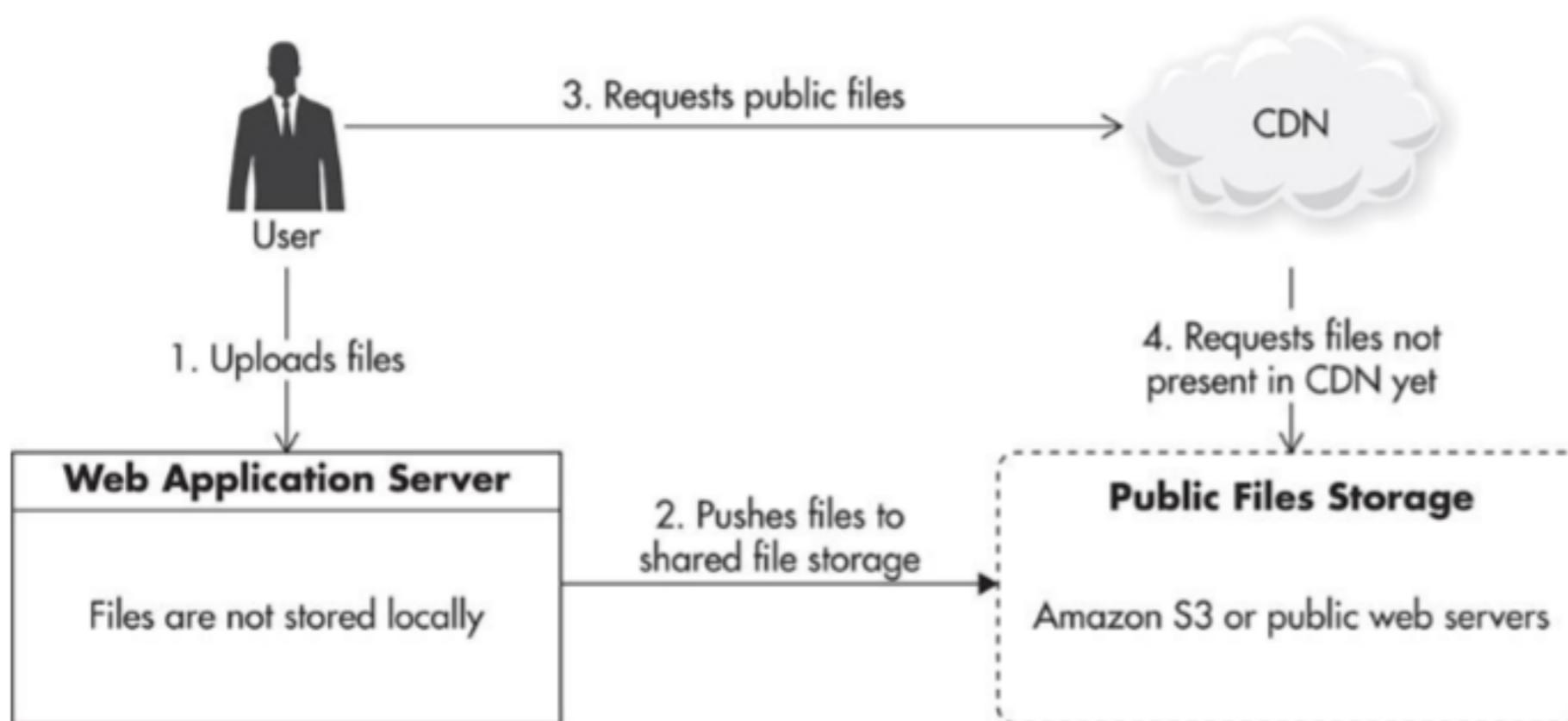
Highly-structured table organization
with rigidly-defined data formats and
record structure.



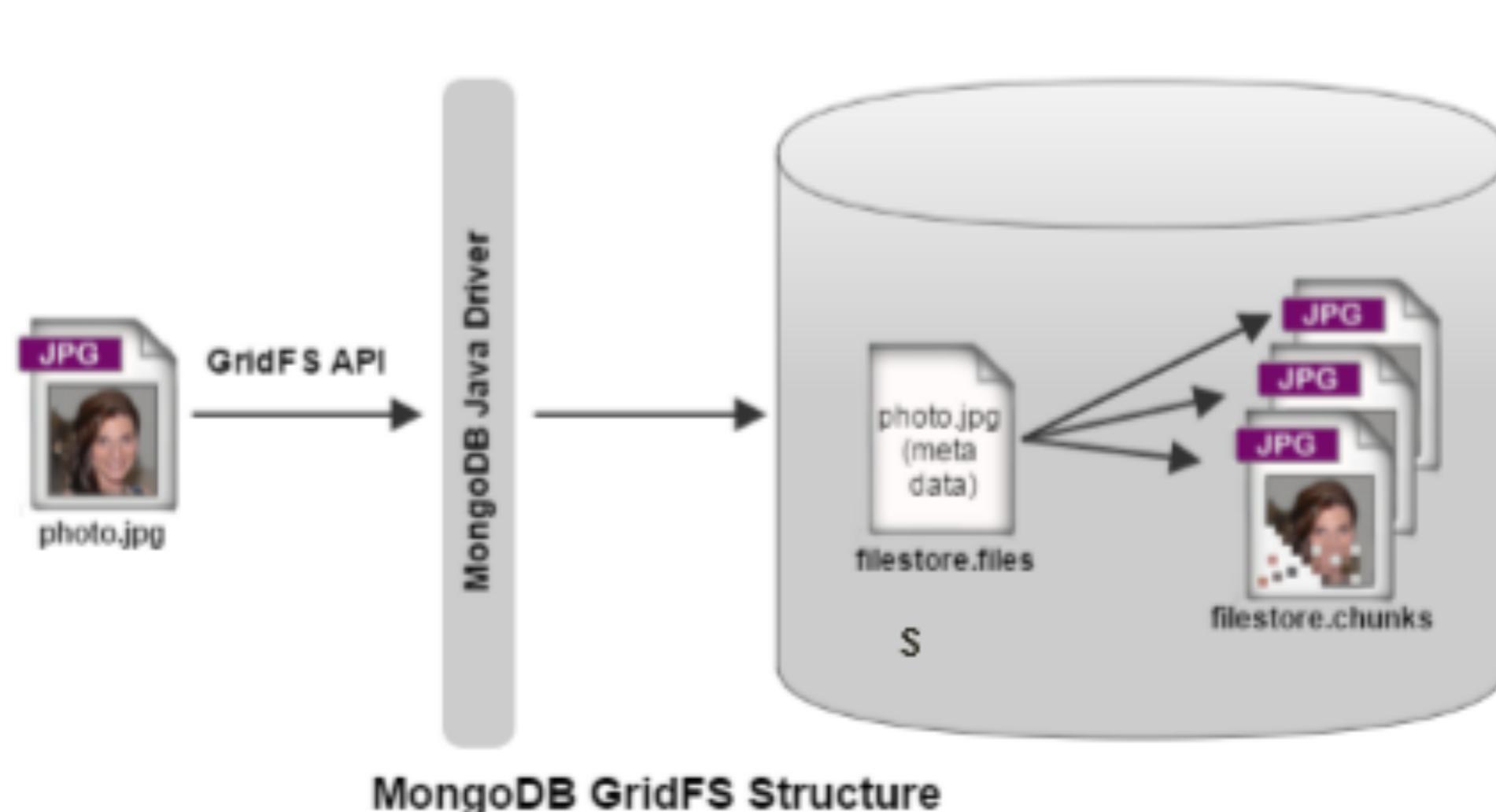
Document data model

Collection of complex documents with
arbitrary, nested data formats and
varying “record” format.

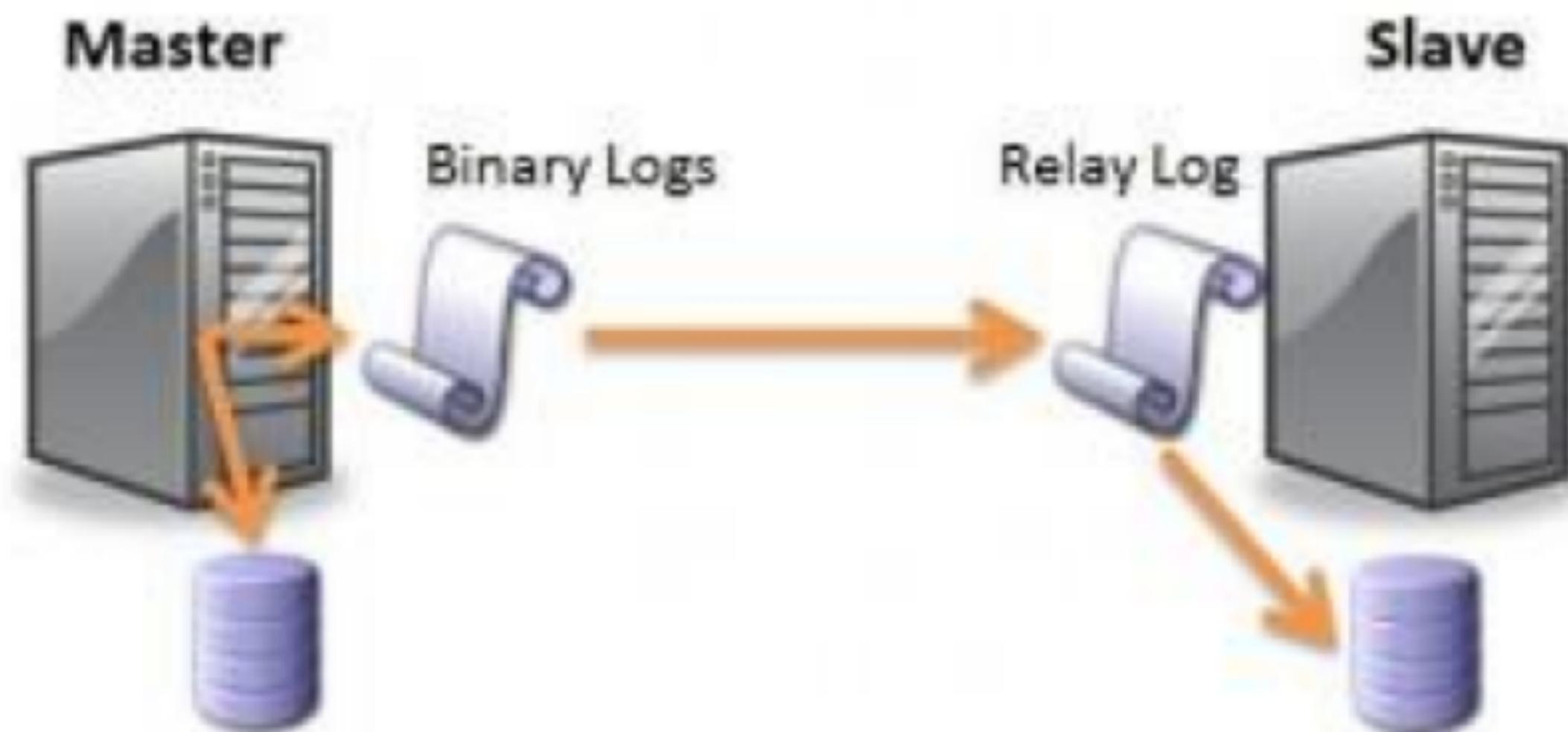
DISTRIBUTED STORAGE AND DELIVERY OF PUBLIC FILES



FILE MANAGED



SQL SCALING



Q&A

Nitipat Wuttisasiwat

THANK YOU