BYTE.CODE
Technology Solutions
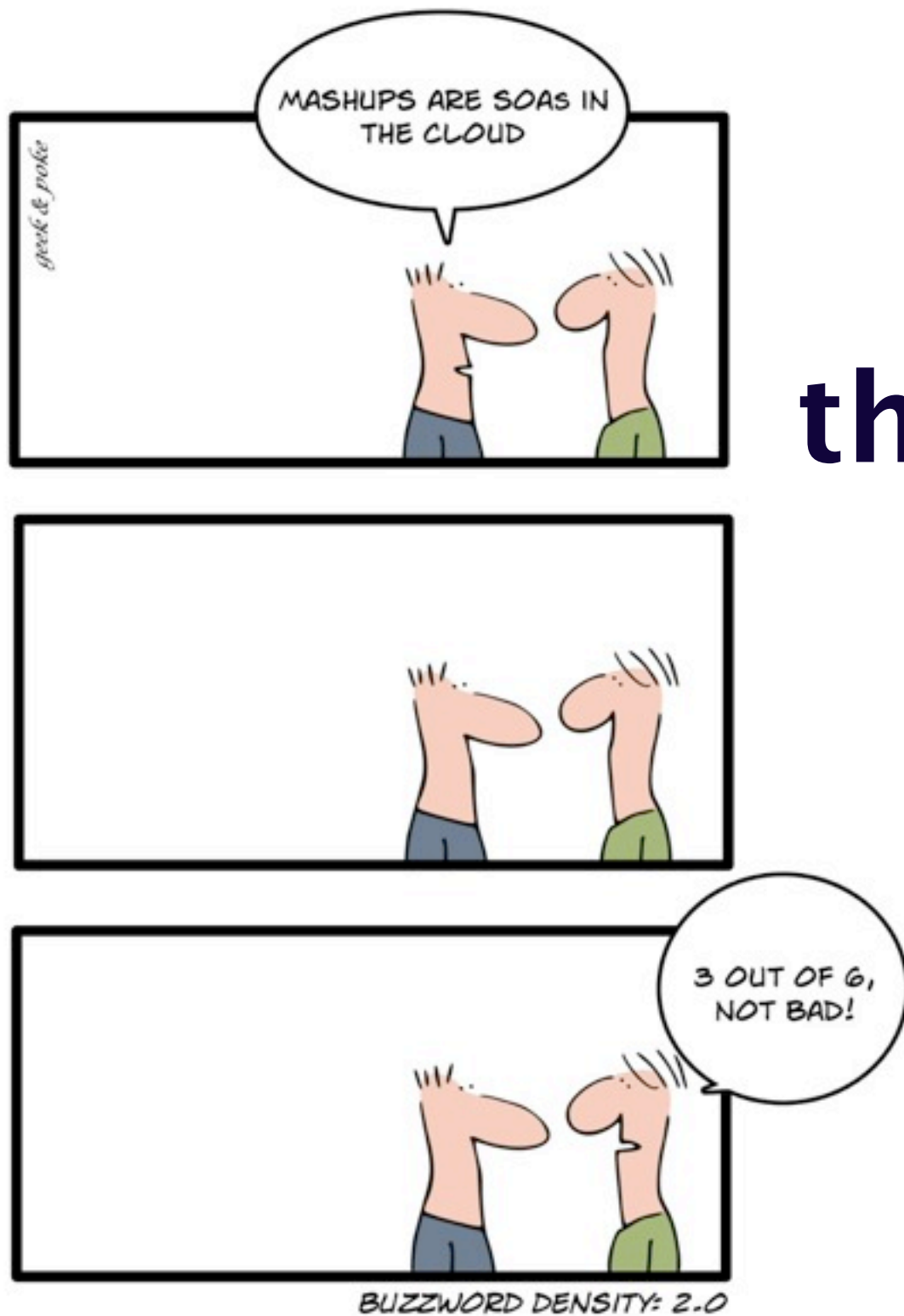
COMPANY
ENTERPRISE OPEN-SOURCE SOLUTIONS
OVERVIEW

A World's map
of our customers

the "CLOUD" buzzword

Cloud confused?

"When people talk about cloud computing, they're talking just about taking some stuff, putting it outside the firewall, and perhaps putting it on servers that are also shared or storage systems."
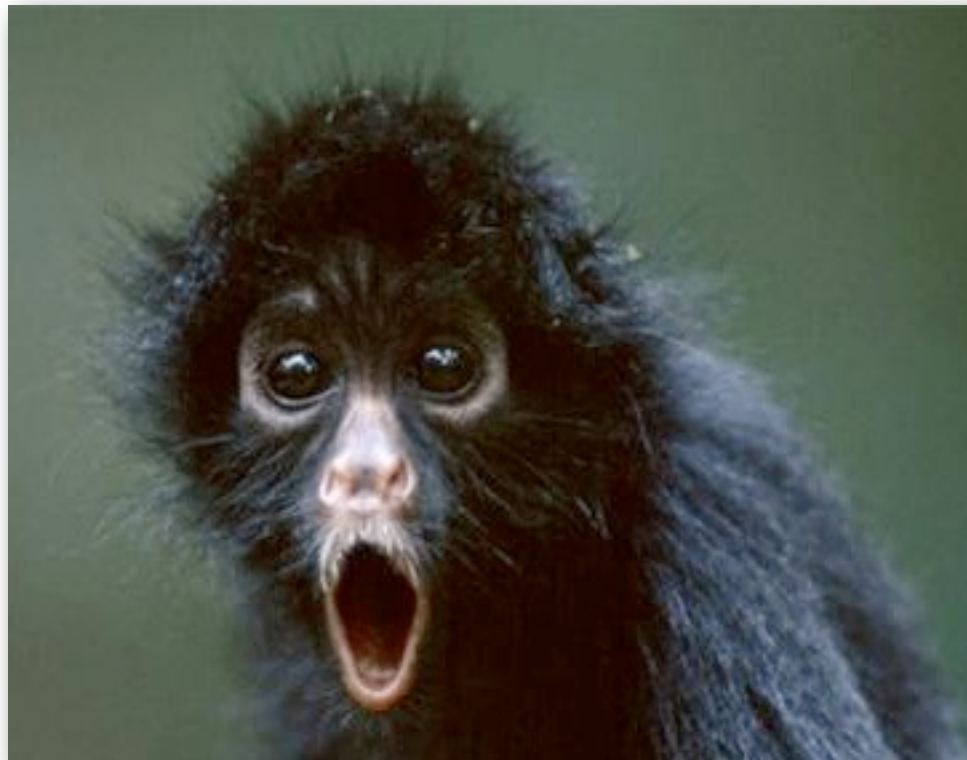*Microsoft CEO - Steve Ballmer*

"The computer industry is the only industry that is more fashion-driven than women's fashion. Maybe I'm an idiot, but I have no idea what anyone is talking about. What is it? It's complete gibberish. It's insane. When is this idiocy going to stop?"
Oracle CEO - Larry Ellison
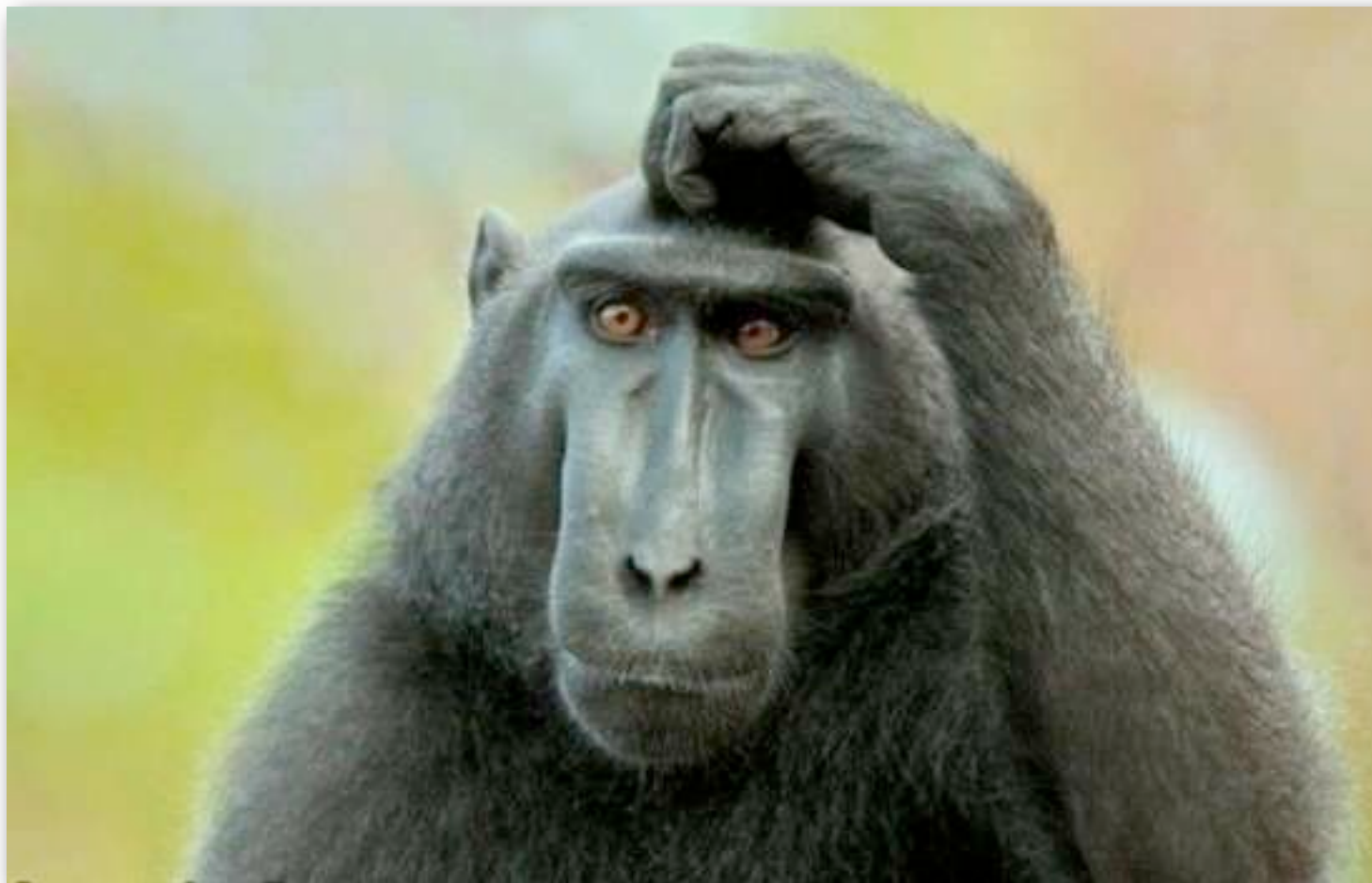
....and GARTNER said....

"Cloud computing will be as influential as e-business."

Cloud for "serious guys"

Economic Elements:

Pay-as-you-go, pay-as-you-grow, no CAPEX

Architectural Elements:

Simple, abstract environment for development.

Strategic Elements:

Focus on your core business, leave the rest to someone else.

Cloud&Enterprises: misfits?

- Culture & Processes
- IT departments & Skills
- PRODUCTS

Enterprise e-commerce

"In fact what is Oracle's strategy for ATG? **Overall the platform was built in 1990s***, there have been release changes but no major re-write. The platform has a mamouth footprint and is difficult to work with. Do they re-write, if so what happens to the old ATG customer base, surely they won't re-build and pay Oracle for new licenses? What call centre or CMS will they use etc. I genuinely believe that ATG will die a slow and painful death - we are already seeing this in the marketplace. What deals have they won in the last 6-9 months in the UK for example? The mass exodus of staff from services, support and sales surely won't help their cause and will exasperate the implementation issues even further as system integration partners also begin to look at other technologies such as hybris." -*

Mark Adams - eCommerce Technology & multi channel integration

Social networks?
Multichannel?
Mobile?
Google? SEO? Analytics?
Cloud Computing?

Cloud mismatches of "old stuff"

- Architecture mismatch
  - Low traffic "blobs" -> central resources
- Deployment mismatch
  - Flexible/Continuos deployments and autoscaling
- Licensing mismatch
- Features mismatch

Redesign from scratch for

Numbers

✓ During its 16 years of presence in Italy, Leroy Merlin has created **49 stores**

✓ Large areas ranging from **6.000 m2** to **13.000 m2**.

✓ The revenues of over **€ 1 billion** in 2011 was made possible thanks to the work of more than **5.800** employees, **99%** of which is also a shareholder in your company

LEROY MERLIN
In caso di casa.

+1 MILIARDO
FATTURATO 2011

34 ANNI
ETÀ MEDIA

49
NEGOZI

5.800
COLLABORATORI

Product Catalog Numbers

- ✓ **87.000** catalog products

- ✓ **20.000** products turnover for year.

- ✓ **1.000** product families - e.g. 1.000 different products datamodel

- ✓ **20 millions** product attributes

- ✓ **1.200** product information updates for day

- ✓ **5** internet product manager

- ✓ **2 millions** visitors on web site

- ✓ …

- ✓ No DB Admin

Overall Architecture

Multichannel Delivery Layer
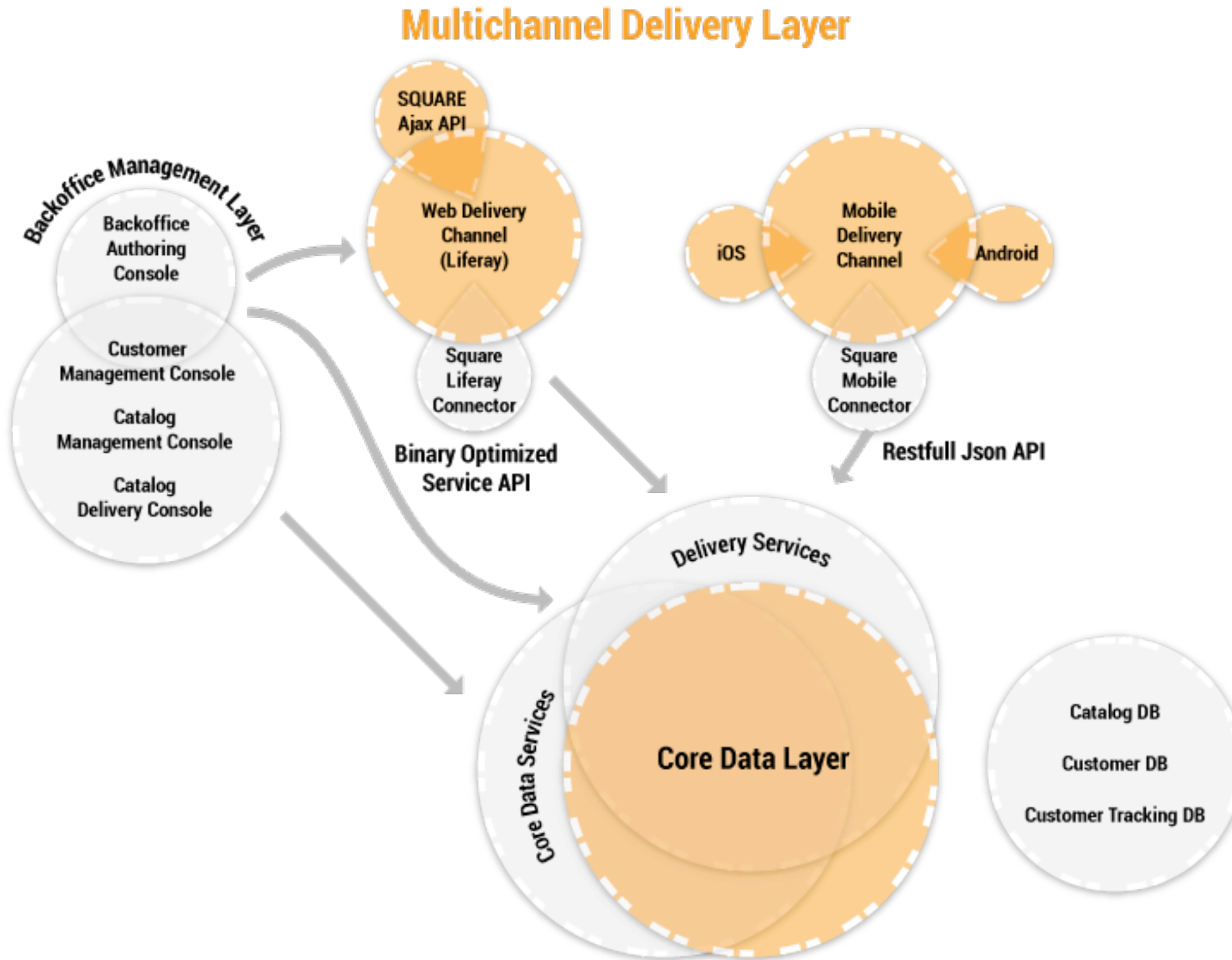
Designed for the cloud services:)

S3 & Cloudfront – Fast CDN
EC2 & Elastic Beanstalk & RDS – Flexible auto scaling
SNS & SQS – Reliable Messaging
CloudSearch – Fast content indexing and search
MongoDB – NoSQL
Cloudbees

Why NoSQL?

Data Types

- Unstructured data
- Semi-structured data
- Polymorphic data

Agile Development

- Iterative
- Short development cycles
- New workloads

RDBMS

Volume of Data

- Petabytes of data
- Trillions of records
- Millions of queries per second

New Architectures

- Horizontal scaling
- Commodity servers
- Cloud computing

MongoDB main features

Dynamic Schema with JSON Document Model

Auto-Sharding for Horizontal Scalability

Full, Flexible Index Support

Rich, Document-Based Queries

Built-In Replication and High Availability

Cloud, On-Premise and Hybrid

Aggregation Framework and MapReduce

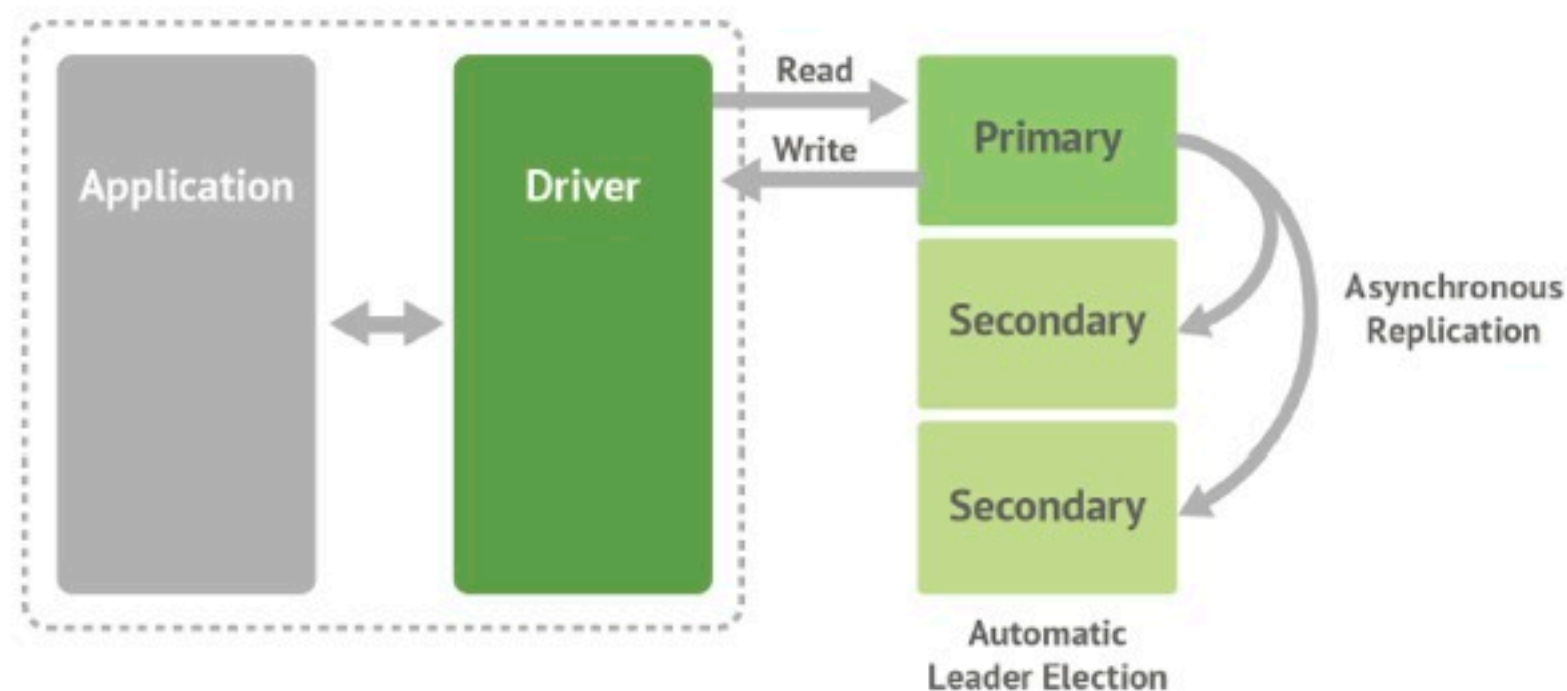GridFS for Large File Storage

MongoDB and NOSql

NoSQL means...

NoSQL means...

no joins
+ no complex transactions
_____

Horizontally Scalable
Architectures

Availability (and read scaling...)

- Automated replication and failover

- Multi-data center support

- Improved operational simplicity (e.g., HW swaps)

- Data durability and consistency

Scalability

Auto-Sharding

| Shard 1 | Shard 2 | Shard 3 | ••• | Shard N |

Horizontally Scalable ➝

- Increase capacity as you go

- Commodity and cloud architectures

- Improved operational simplicity and cost visibility

Availability and Scalability

Thank you:)