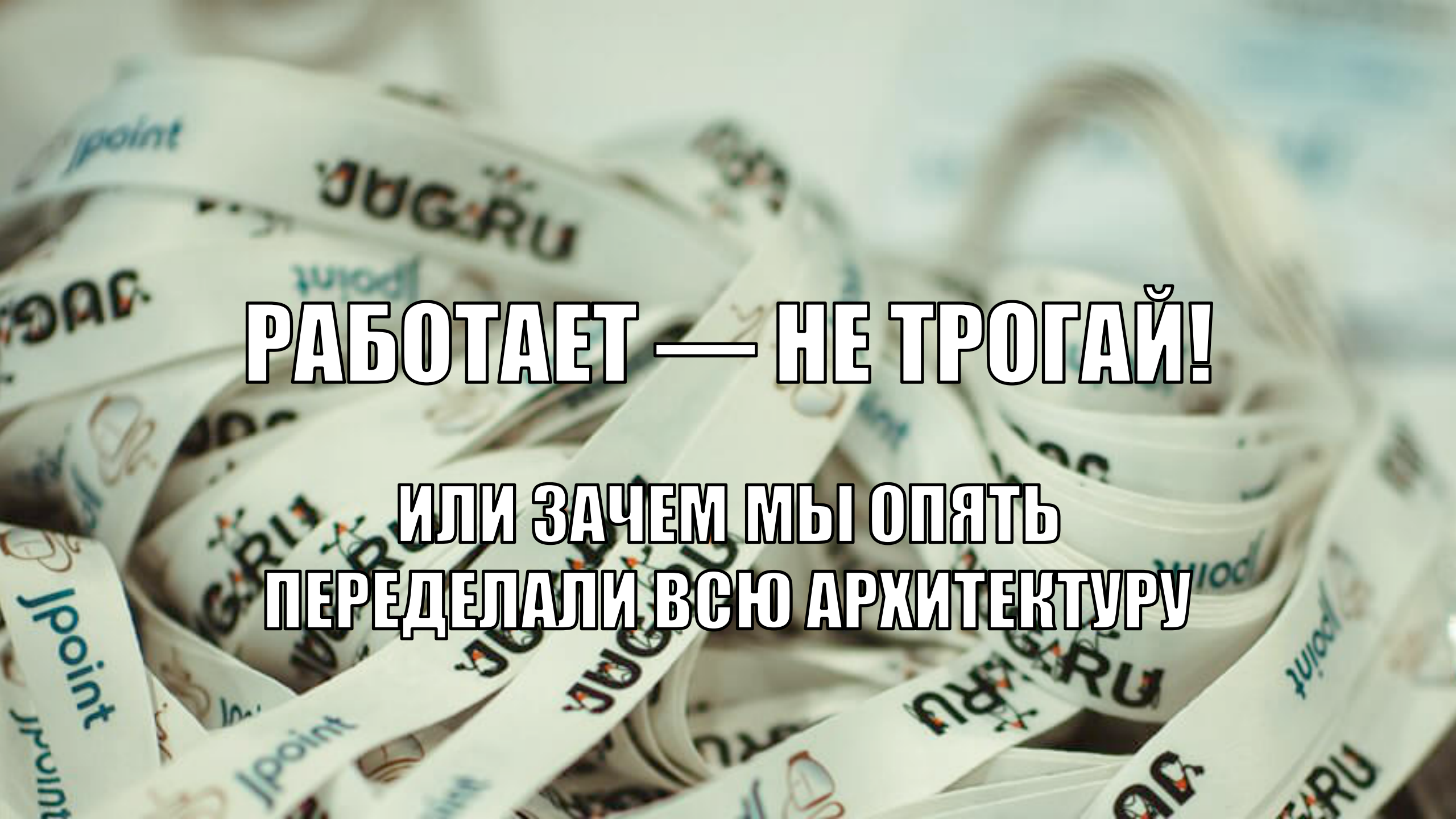
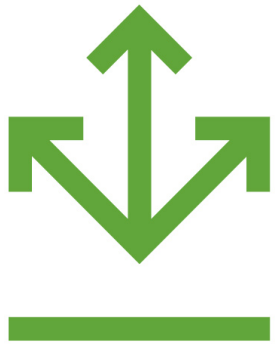
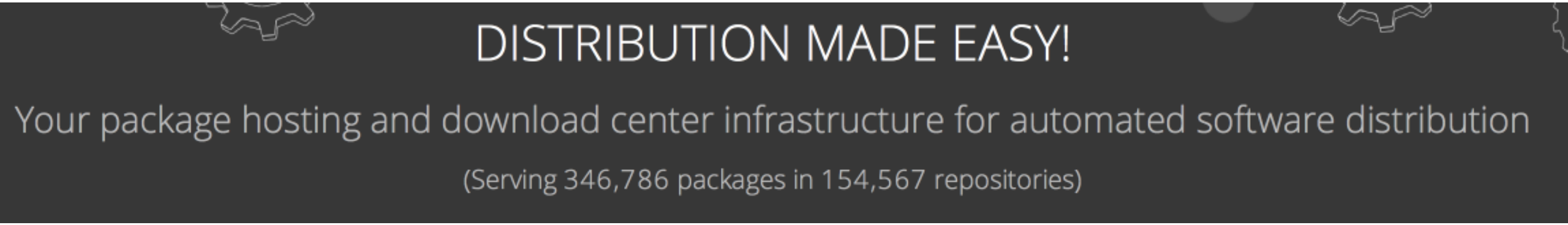

РАБОТАЕТ — НЕ ТРОГАЙ!
ИЛИ ЗАЧЕМ МЫ ОПЯТЬ
ПЕРЕДЕЛАЛИ ВСЮ АРХИТЕКТУРУ

Ты кто такой?

- @jbaruch – это я
- @real_jbaruch – это не я, но тоже ОК
- Developer Advocate @ JFrog
- Artifactory, Bintray, лягушки, вот это всё

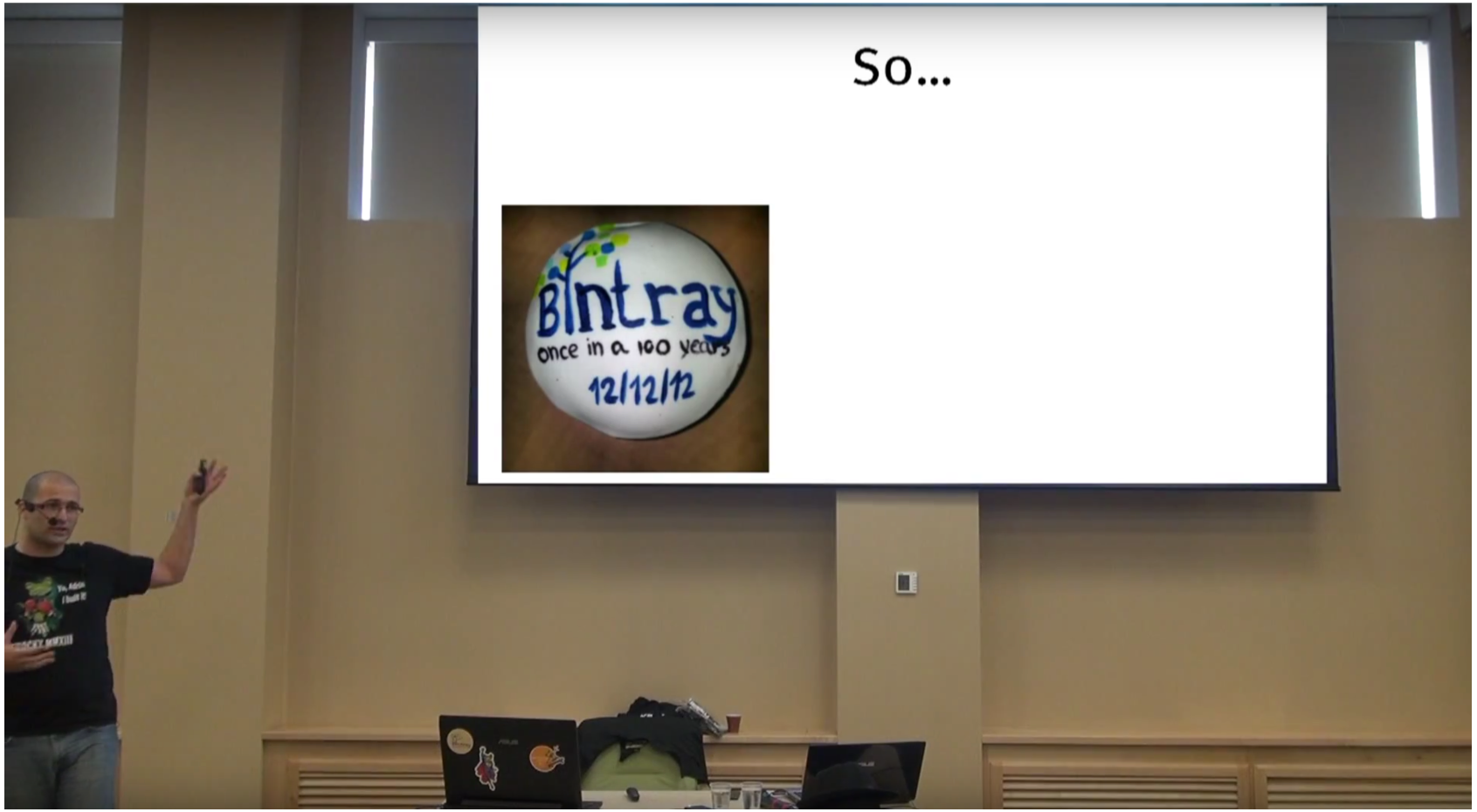


JFrog Bintray



МИЛЛИАРД ЗАПРОСОВ В МЕСЯЦ.

30 Августа 2013 г.



требования

требования

– Раздача файлов

требования

- Раздача файлов
- Веб морда

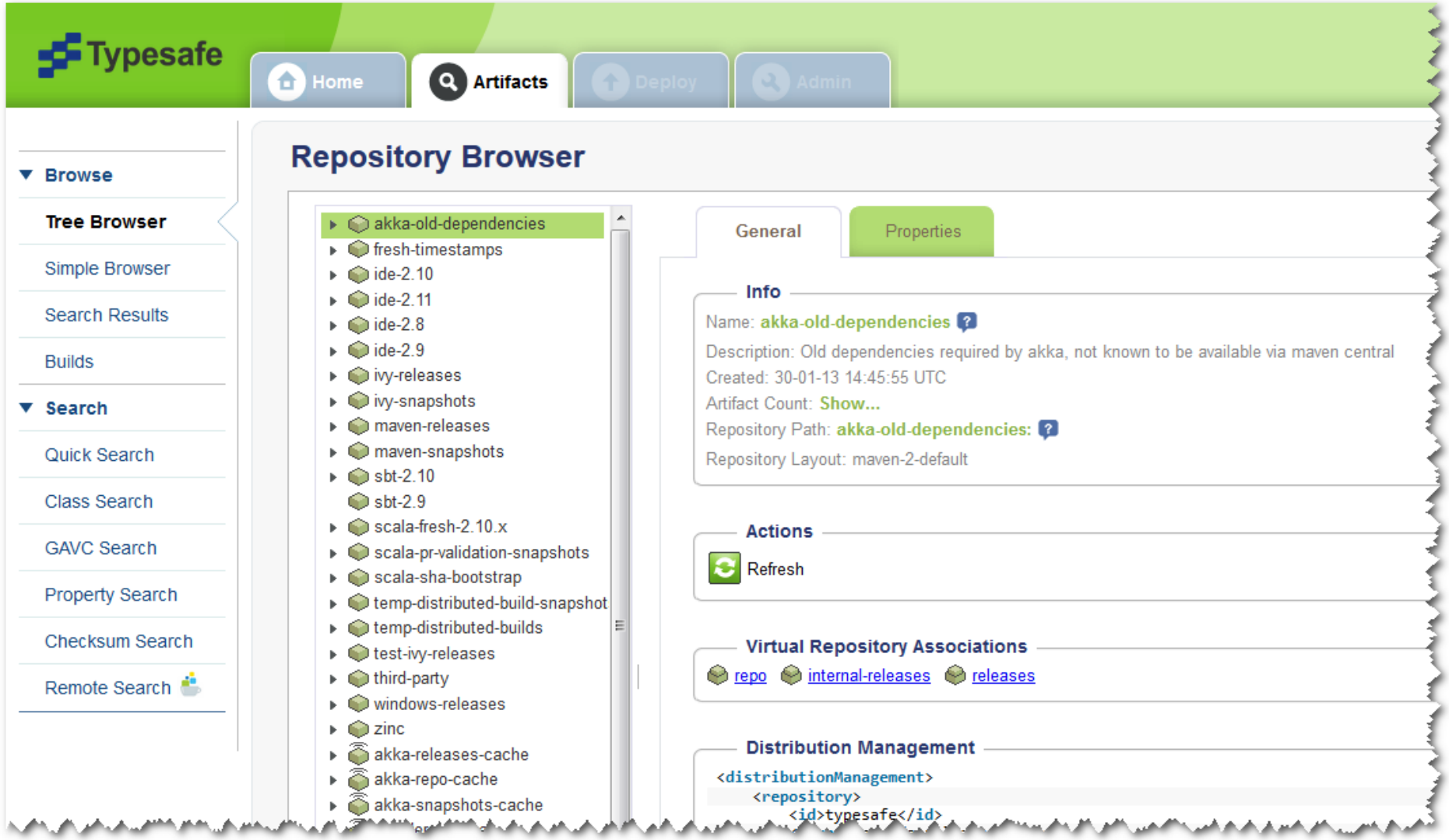
требования

– Раздача файлов
– Веб морда
– REST API

требования

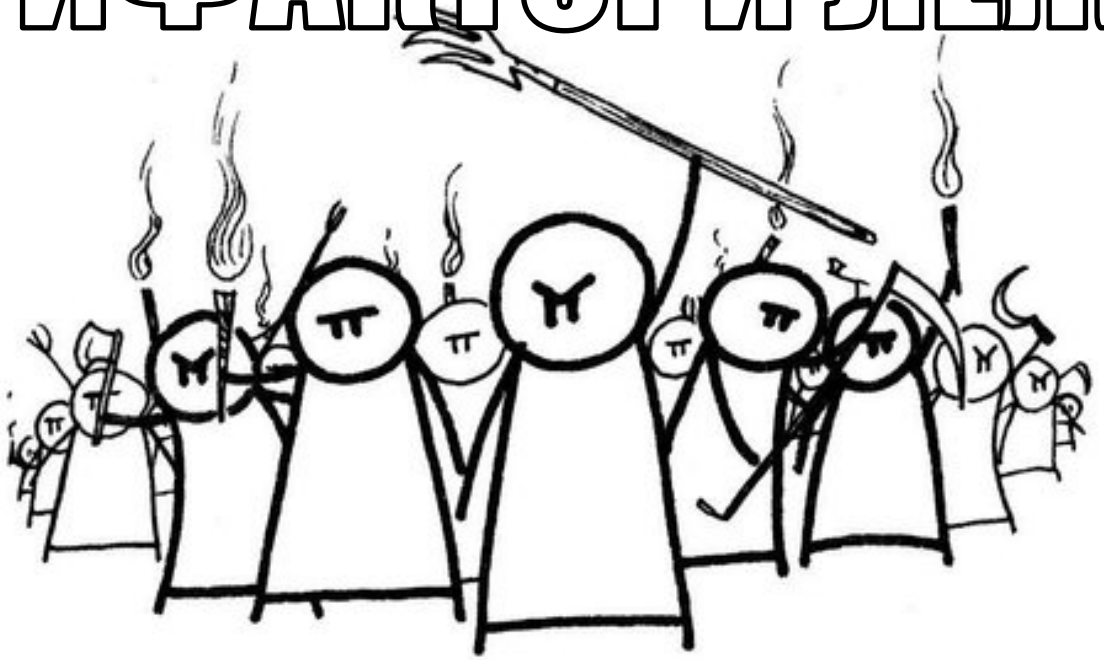
– Раздача файлов
– Веб морда
– REST API
– Всякие сервисы

ЗНАЕМ МЫ ЭТИХ ПРОГРАММИСТОВ



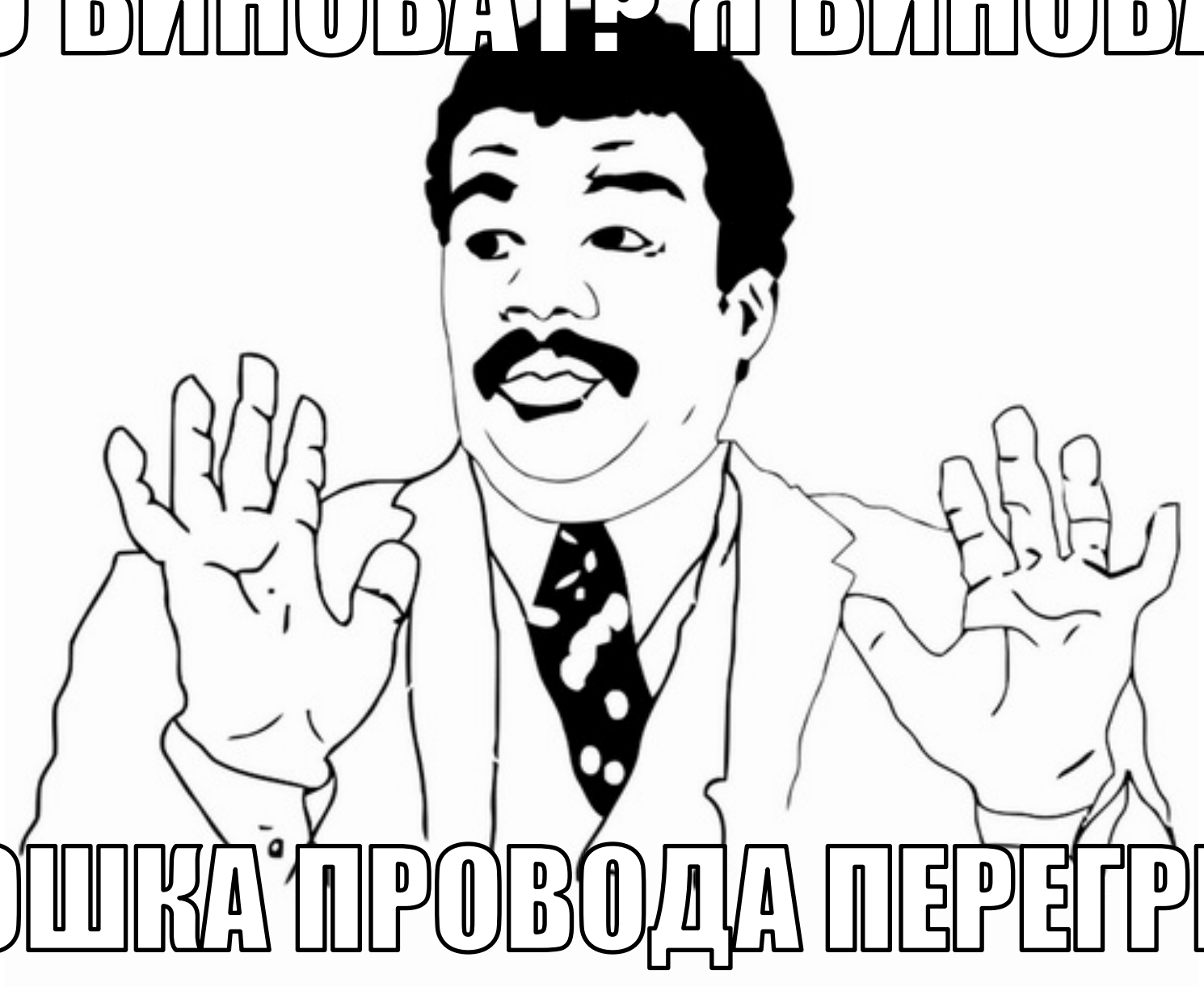
КРИКЛИВЫЕ АДЕПТЫ ОЧЕРЕДНОГО ${LANG}

АРТИФАКТОРИ ЛЕЖИТ!



БИЛДЫ ПАДАЮТ!

КТО ВИНОВАТ? Я ВИНОВАТ?



ЭТО КОШКА ПРОВОДА ПЕРЕГРЫЗЛА!

Раздача файлов должна…

Веб морда должна...

Всякие сервисы должны…

требования

сервис RPS доступность

требования

сервис	RPS	доступность
Download	10K	Кровь из носа

требования

сервис	RPS	доступность
Download	10K	Кровь из носа
Interaction	100	Практически всегда

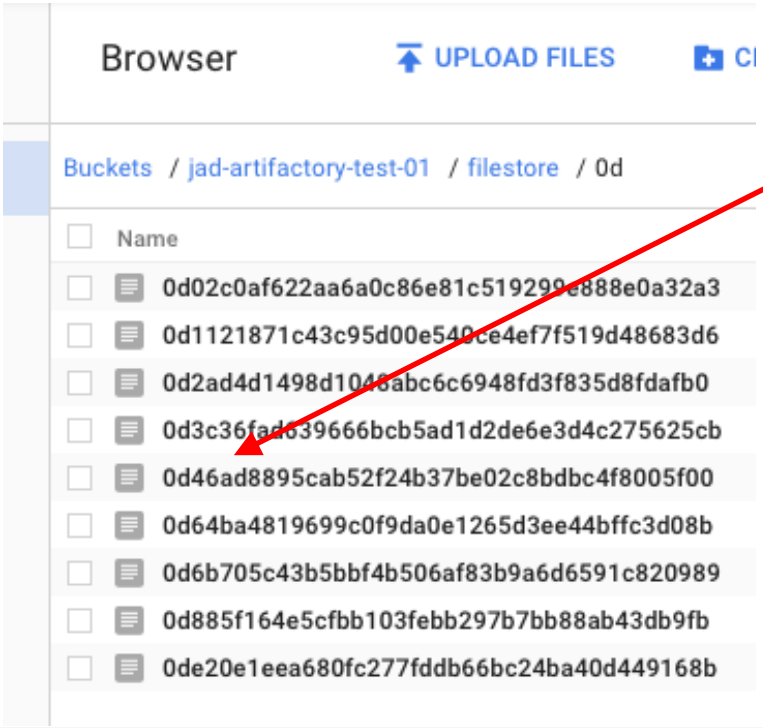
требования

сервис	RPS	доступность
Download	10K	Кровь из носа
Interaction	100	Практически всегда
Services	1	Должно работать

Простой и умный

DOWNLOAD SERVER

Metadata-rich Storage



Artifact on disk

Record in DB

	sha1_actual	repo	node_path	node_name	bin_length
4191	0cf8057f4afbc32f6d5955bd8154f72f75f6e239	nuget-stage-local	JFrog/MyTestProject/20160120.3	VSODemo.Service.1.0.0.0.nupkg	4229
4192	0cf9149103fd1be36f87cc5b9ef5656f77c575bd	jcenter-cache	org/sonatype/aether/aether-spi/1.13…	aether-spi-1.13.1.pom	1448
4193	0d2ad4d1498d1048abc6c6948fd3f835d8fdafb0	jcenter-cache	javax/validation/validation-api/1.1…	validation-api-1.1.0.Final.pom	7860
4194	0d46ad8895cab52f24b37be02c8bdbc4f8005f00	maven-test-local	org/jfrog/test/multi3/3.7-SNAPSHOT	multi3-3.7-20160321.235600-65.war	2533328
4195	0d64ba4819699c0f9da0e1265d3ee44bffc3d08b	npm-remote-cache	.npm/errorhandler	package.json	40638
4196	0d6b705c43b5bbf4b506af83b9a6d6591c820989	maven-test-local	org/jfrog/test/multi2/3.7-SNAPSHOT	multi2-3.7-20160322.174630-89.jar	1019
4197	0d885f164e5cfbb103febb297b7bb88ab43db9fb	maven-test-local	org/jfrog/test/multi1/3.7-SNAPSHOT	multi1-3.7-20160322.191609-98-tests.…	1309
4198	0e22a6bcaa8245e834ee3bc884a0c4fee4bbd079	jcenter-cache	org/apache/maven/maven-builder-supp…	maven-builder-support-3.3.3.jar	14964
4199	0e803c5b6fff51bfa3ff5419f0a908006db4e400	npm-remote-cache	.npm/is-dotfile	package.json	9198

Проще некуда (На самом деле есть)

Гибкий и мощный

WEB APPLICATION


mongoDB


elastic


NGINX

Асинхронные сервисы:
Например, обсчет индексов

Очереди + состояние

What is the best mongodb hosting?

What is the best hosting solution for mongodb?

Write Answer | Re-Ask | Follow 70 | Comment | Share | Downvote | ...

13 Answers

Gaëtan Voyer-Perrault, Software Engineer, DB & Node.JS enthusiast

16.7k Views • Gaëtan is a Most Viewed Writer in MongoDB with 270+ answers.

For most people there are basically three major players:

1. MongoLab
2. MongoHQ
3. ObjectRocket

This image cannot currently be displayed.

3 Answers

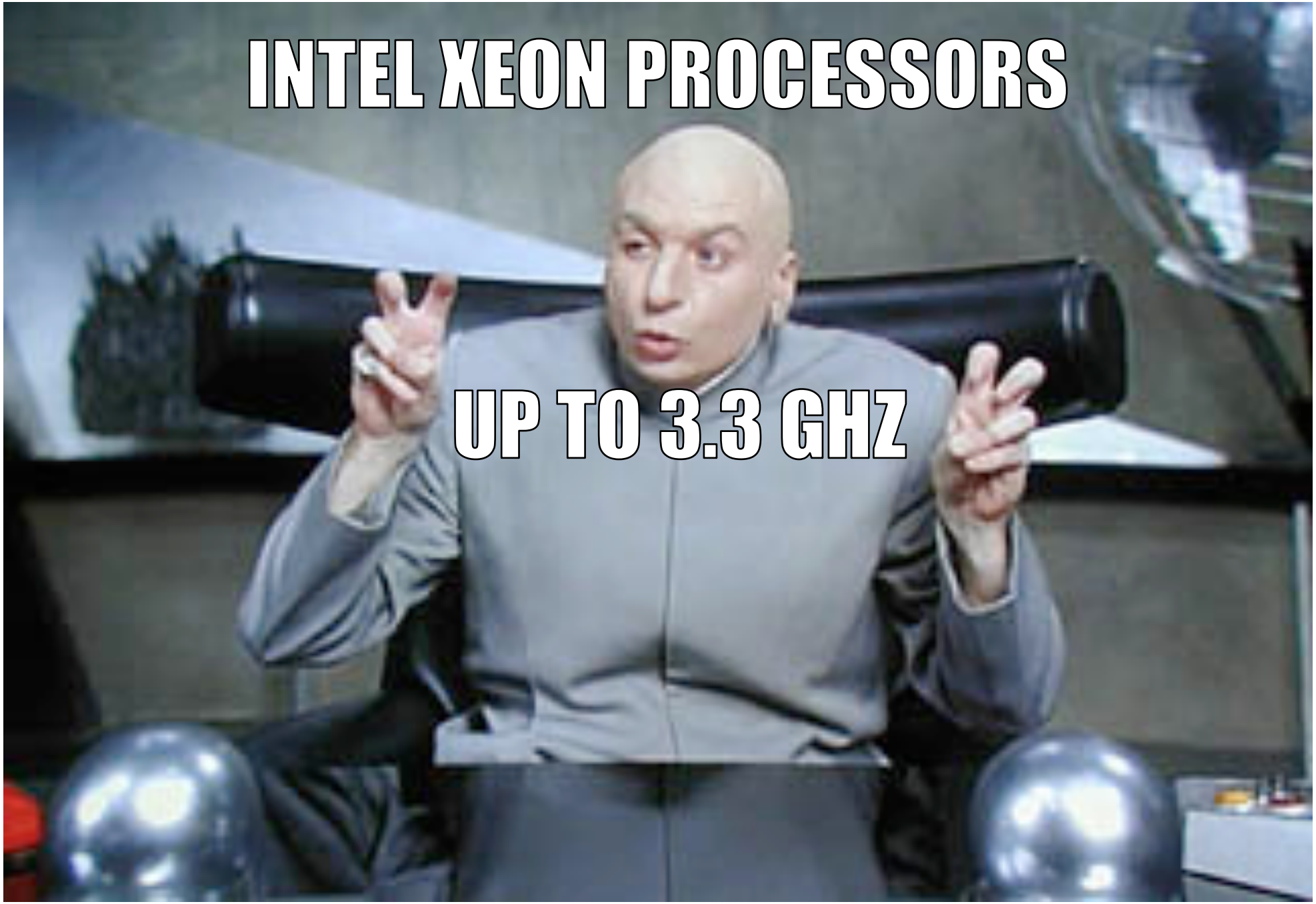
active oldest votes

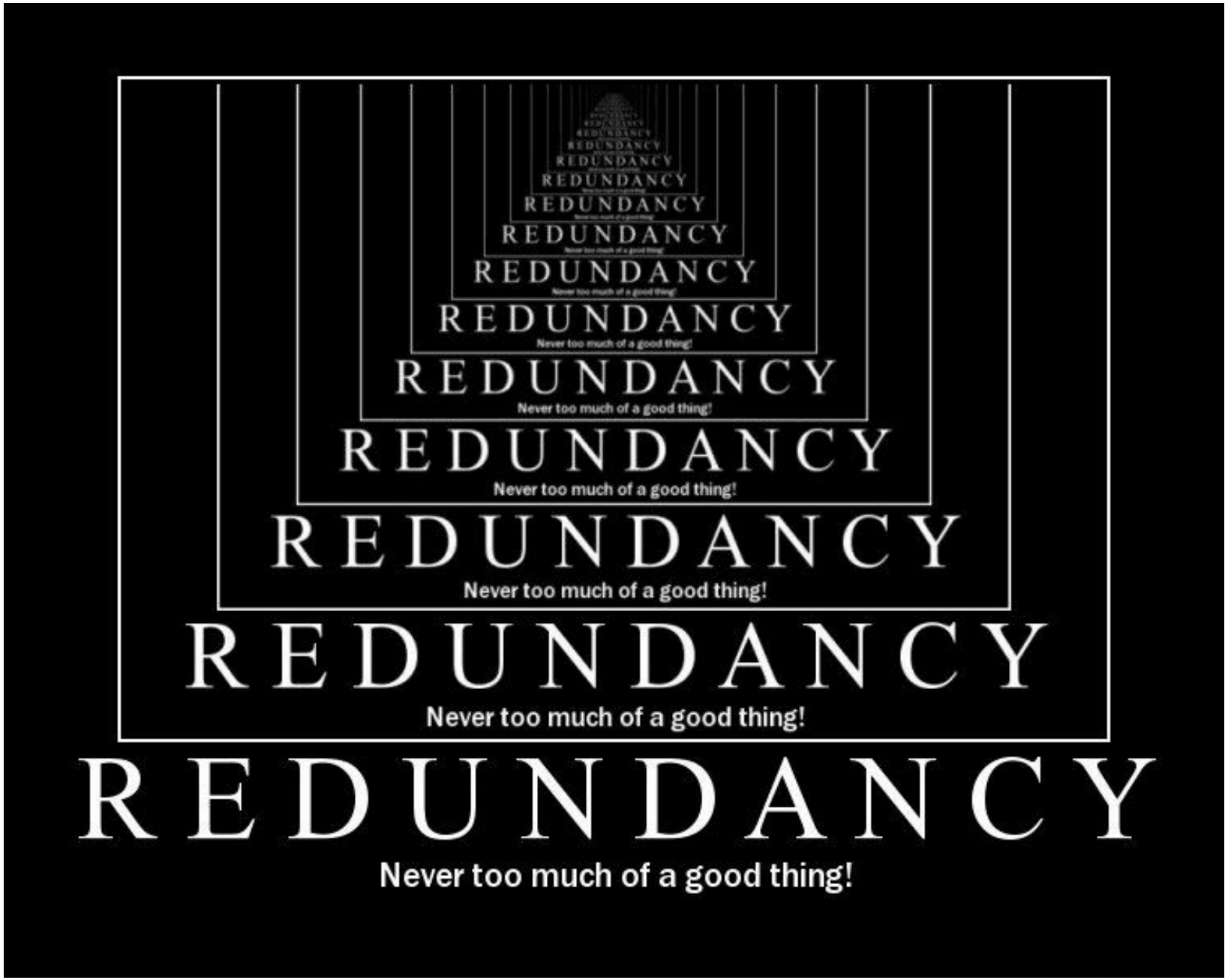
9

I found that there isn't simple and absolute answer for questions like yours. Each virtualization solution behaves differently on specific performance tests. Also, tests like disk I/O throughput can be split in many different tests (read, write, rewrite, ...) and the results will vary from solution to solution, and from scenario to scenario. This is why it is not trivial to point one solution as being the fastest for disk I/O, and this is why there is no absolute answer for labels like overhead for disk I/O.

VM layer overhead, Linux guest:

- CPU and Memory: 14.36%
- Network I/O: 24.46%
- Disk I/O: 8.84%
- Disk latency for reading: 2.41 times slower
- Micro-operations execution time: 10.84 times slower


INTEL XEON PROCESSORS
UP TO 3.3 GHZ

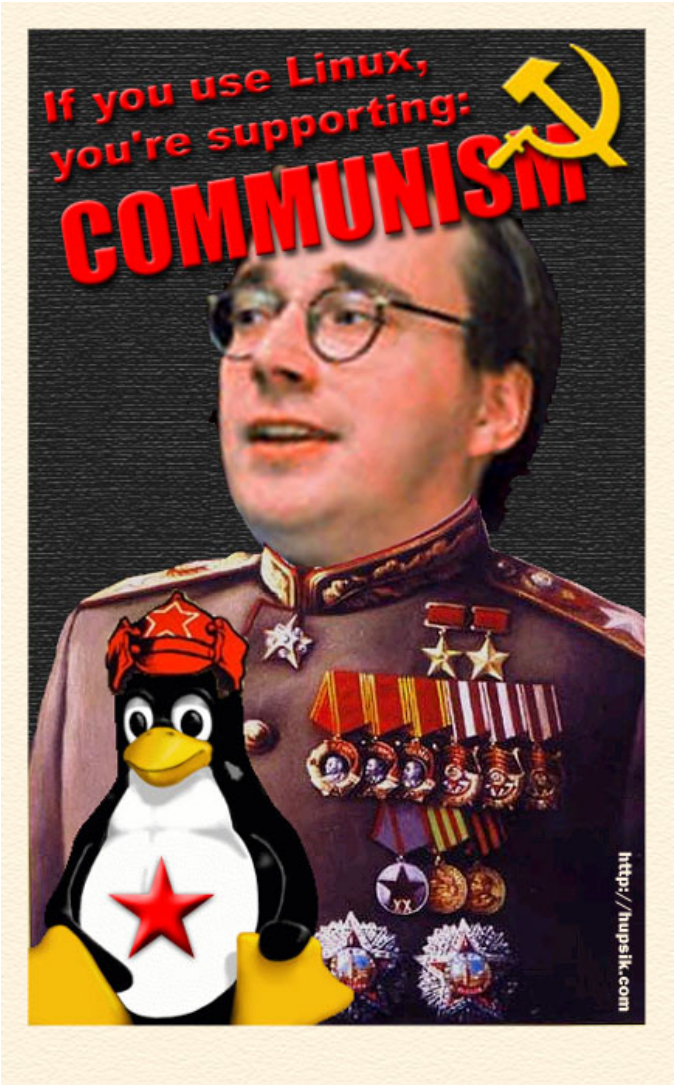

REDUNDANCY
Never too much of a good thing!
REDUNDANCY
Never too much of a good thing!
REDUNDANCY
Never too much of a good thing!
REDUNDANCY
Never too much of a good thing!
REDUNDANCY
Never too much of a good thing!
REDUNDANCY
Never too much of a good thing!
REDUNDANCY
Never too much of a good thing!
REDUNDANCY
Never too much of a good thing!
REDUNDANCY
Never too much of a good thing!
REDUNDANCY
Never too much of a good thing!

REMEMBER?

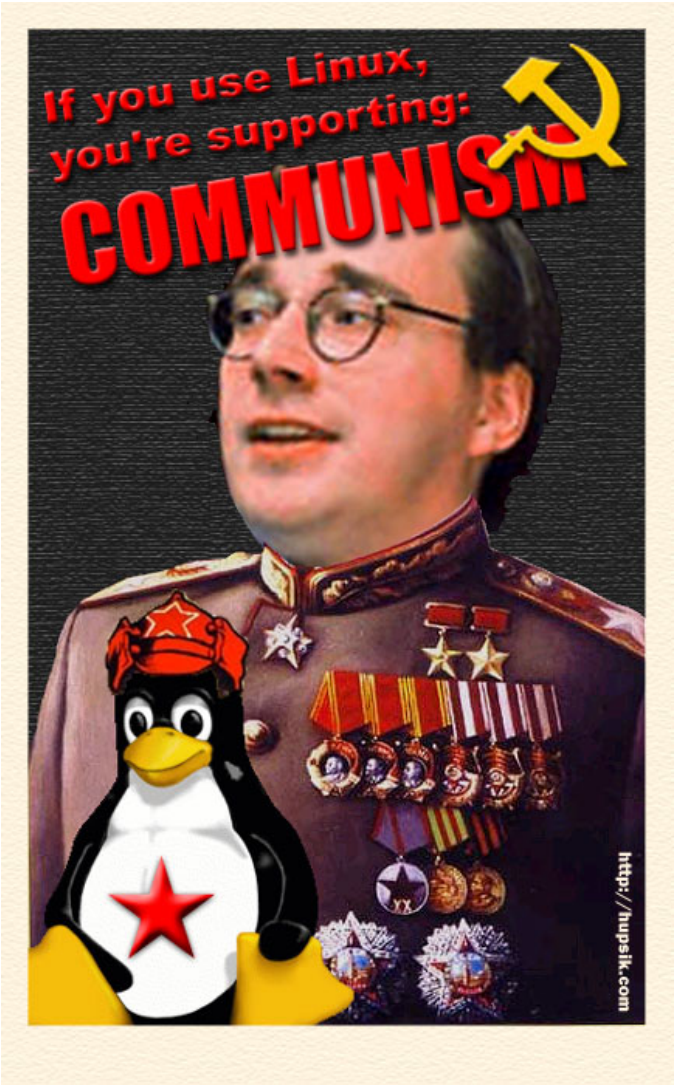
DEVOPS

WE ARE LIBERAL

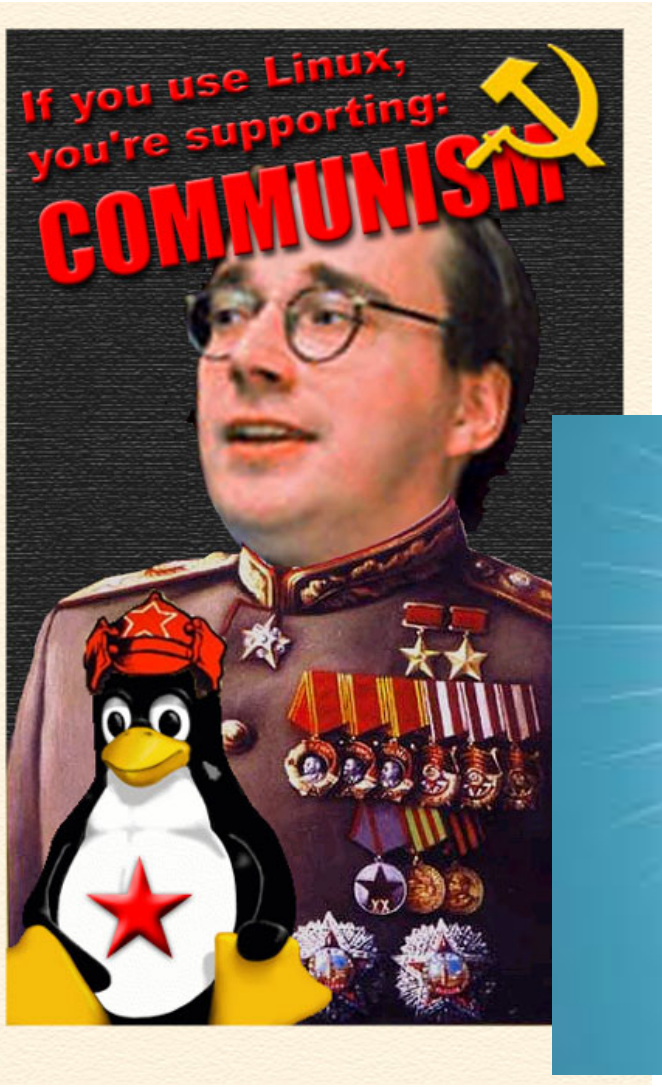
WE ARE LIBERAL



WE ARE LIBERAL



WE ARE LIBERAL




НЕЛЬЗЯ ПРОСТО ТАК ВЗЯТЬ И
ПОСТАВИТЬ ВСЁ ЭТО НА ВСЁ ТО

DevEnv and Deploy

DevEnv and Deploy

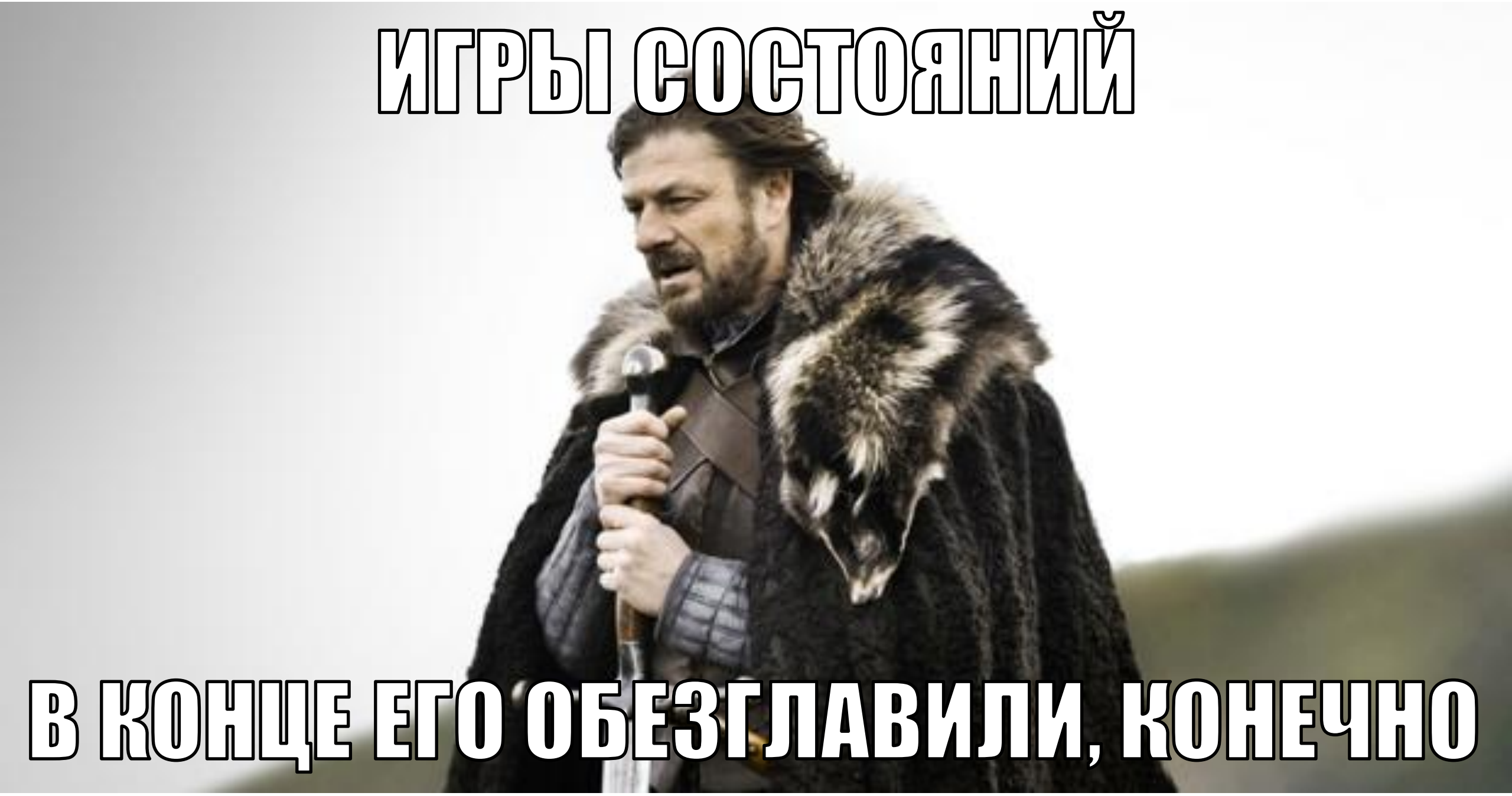
Jfokus SPEAKERS TALKS SCHEDULE VIDEO

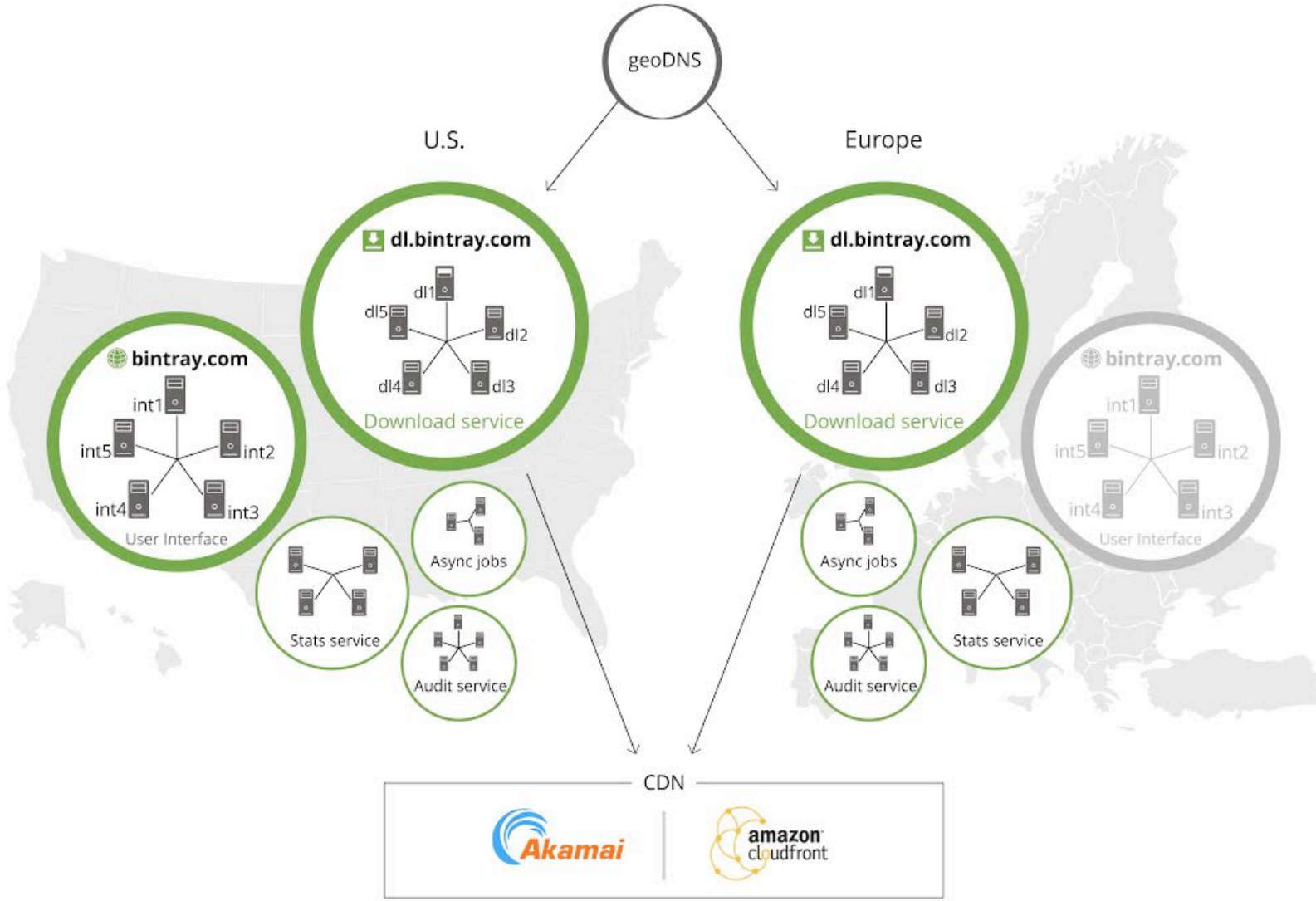
3-5 February 2014

Presentation: Developing for multi-component environment while keeping your sanity

Baruch Sadogursky, JFrog Ltd.

Managing a modern multi-component application in a continuous integration/deployment environment can be very tricky. In this session we will concentrate on two of the aspects - environment setup, showcasing tools like Vagrant, Chef and Puppet for creating and controlling development, testing, staging, production and other environments and pushing the deliverables through those environments, using tools like Gradle, Jenkins and Artifactory. Join us and get all the little tips and tricks that will help you rule your development world.


ИГРЫ СОСТОЯНИЙ
В КОНЦЕ ЕГО ОБЕЗГЛАВИЛИ, КОНЕЧНО


geoDNS
U.S.
Europe
dl.bintray.com
dl1
dl2
dl3
dl4
dl5
Download service
dl.bintray.com
dl1
dl2
dl3
dl4
dl5
Download service
bintray.com
int1
int2
int3
int4
int5
User Interface
bintray.com
int1
int2
int3
int4
int5
User Interface
Async jobs
Stats service
Audit service
Async jobs
Stats service
Audit service
CDN
Akamai
amazon
cloudfront

Выводы

Выводы

– Определяйте критичность

Выводы

– Определяйте критичность
– полюбите изменения

Выводы

– Определяйте критичность
– полюбите изменения
– готовьтесь к росту, но будьте реалистами

Выводы

– Определяйте критичность
– полюбите изменения
– готовьтесь к росту, но будьте реалистами
– Redundancy не избыточна!

December 2015

Degraded performance when downloading from Europe

Issue has been resolved. Downloads from Europe are back to normal speed.

Dec 22, 12:30-13:41 UTC

File Download

Intermittent download outage due to connectivity issues with the main object storage service. Our fallback was not auto...

Dec 7, 11:40 UTC

November 2015

Degraded Download Performance

This incident has been resolved.

Nov 16, 10:20-12:11 UTC

October 2015

No incidents reported for this month.

September 2015

REST and UI timeouts due to unexpected request bursts

This incident has been resolved.

Sep 1, 20:55 UTC

March 2016

UI and API is currently having some issues we are investigating the issue

Issue was fixed, both UI and rest API are back to normal.

Mar 20, 11:42-12:11 UTC

Partial outage of UI and API

This incident has been resolved.

Mar 2, 14:10-14:15 UTC

February 2016

Stuck log rotation. Some logs may be suspended.

Log rotation recovery completed successfully.

Feb 28, 23:05 - Feb 29, 17:54 UTC

Experiencing database indexing slowdown

We have identified and resolved the issue.

Feb 18, 09:30-10:05 UTC

Publishing is temporarily paused due a connectivity issues in one of our backend networks

Network issue was resolved. Publishing process back to normal.

Feb 3, 05:15-07:53 UTC

UI Upgrade

UI was temporarily down due to stuck version upgrade.

Feb 1, 15:46 UTC

January 2016

No incidents reported for this month.

August 2015

Slowr EU download initialization

This incident has been resolved.

Aug 21, 16:07 - Aug 22, 17:04 UTC

Degraded Download Performance

This incident has been resolved.

Aug 19, 17:18-18:10 UTC

Downloads initialization slowdown

Continued cluster maintenance inorder to improve the preformance

Aug 13, 05:11-18:10 UTC

Downloads initialization slowdown

Downloads and directory listing from the certain US regions were slow to start due to issues with the backend database ...

Aug 12, 14:21 UTC

July 2015

No incidents reported for this month.

June 2015

Payment gateway issues

This incident has been resolved.

Jun 29, 09:32-14:36 UTC

Uploads are slower than usual

This incident has been resolved.

Jun 11, 23:43 - Jun 12, 00:06 UTC

Uploads temporarily disabled

This incident has been resolved.

Jun 7, 09:07-10:24 UTC

#RAZBORPOLETOV

Доступность Шредингера

- Dear support, it looks like the service is down.

Thanks, JFrog DevOps.

- Dear JFrog DevOps, the service is just fine.

Thanks, Service as a Service support.

What is the best mongodb hosting?

What is the best hosting solution for mongodb?

Write Answer | Re-Ask | Follow 70 | Comment | Share | Downvote | ...

13 Answers

Gaëtan Voyer-Perrault, Software Engineer, DB & Node.JS enthusiast

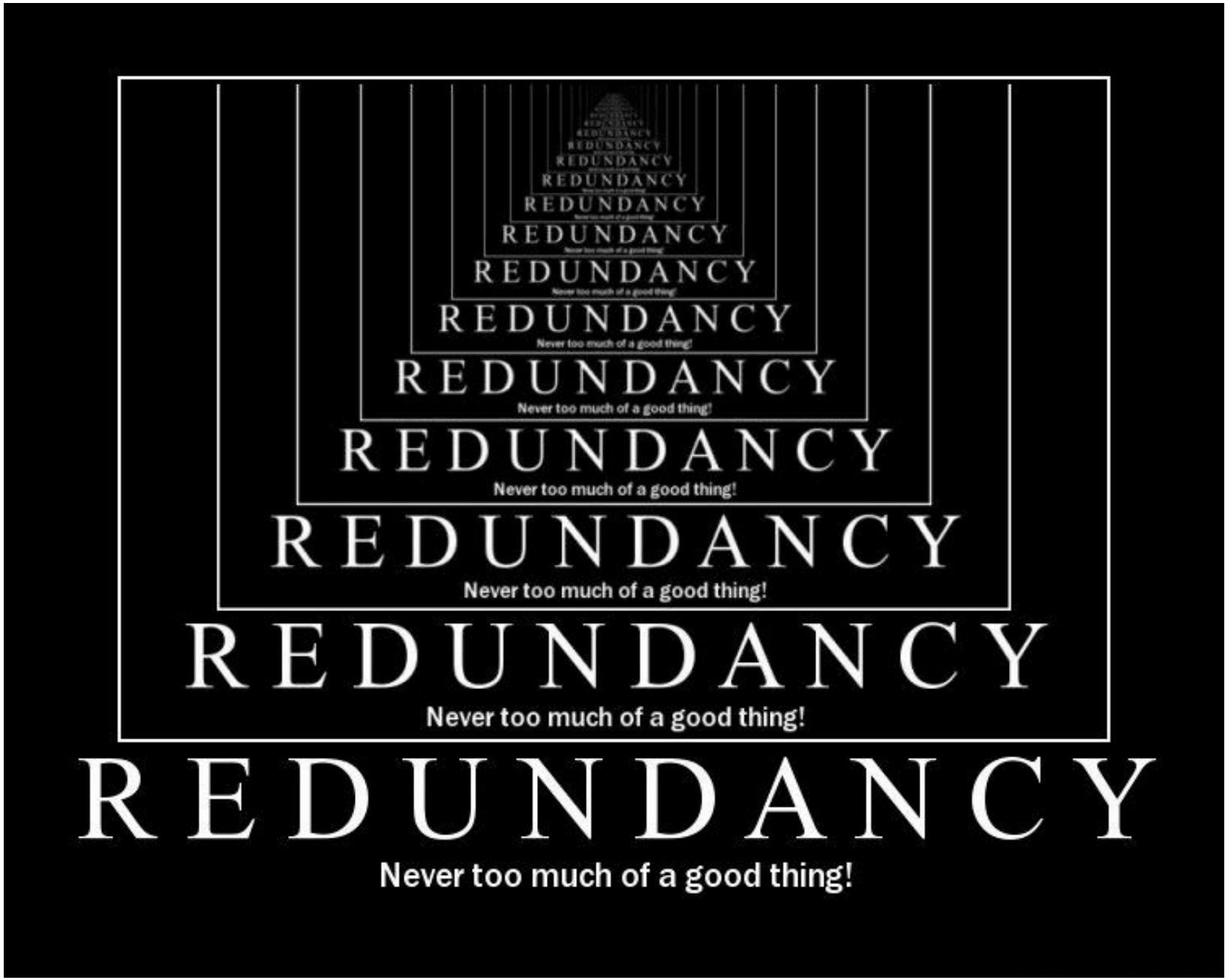
16.7k Views • Gaëtan is a Most Viewed Writer in MongoDB with 270+ answers.

The best hosting is a bunch of computers you own, in two different data centers, supported by a certified MongoDB & Linux expert who knows everything about your system :)

For most people there are basically three major players:

1. MongoLab
2. MongoHQ
3. ObjectRocket


IF YOU WANT SOMETHING DONE, DO IT YOURSELF. YEP!
quickmeme.com


REDUNDANCY
Never too much of a good thing!
REDUNDANCY
Never too much of a good thing!
REDUNDANCY
Never too much of a good thing!
REDUNDANCY
Never too much of a good thing!
REDUNDANCY
Never too much of a good thing!
REDUNDANCY
Never too much of a good thing!
REDUNDANCY
Never too much of a good thing!
REDUNDANCY
Never too much of a good thing!
REDUNDANCY
Never too much of a good thing!
REDUNDANCY
Never too much of a good thing!

tal Countries

2

Total Servers

128,673

Total Domains Active

130,287

Global NOCCs

4

Lifetime Statistics

21,371.24 Gbps

Bits Delivered

CDN

CDN

– Redundancy

CDN

– Redundancy
– Скорость

CDN

– Redundancy
– Скорость
– редирект


ЭТО ЧТО-ЖЕ ПОЛУЧАЕТСЯ?
У МЕЛКИХ ФАЙЛОВ НЕТ
REDUNDANCY?!

We tried a lot of them

We tried a lot of them

We tried a lot of them

We tried a lot of them

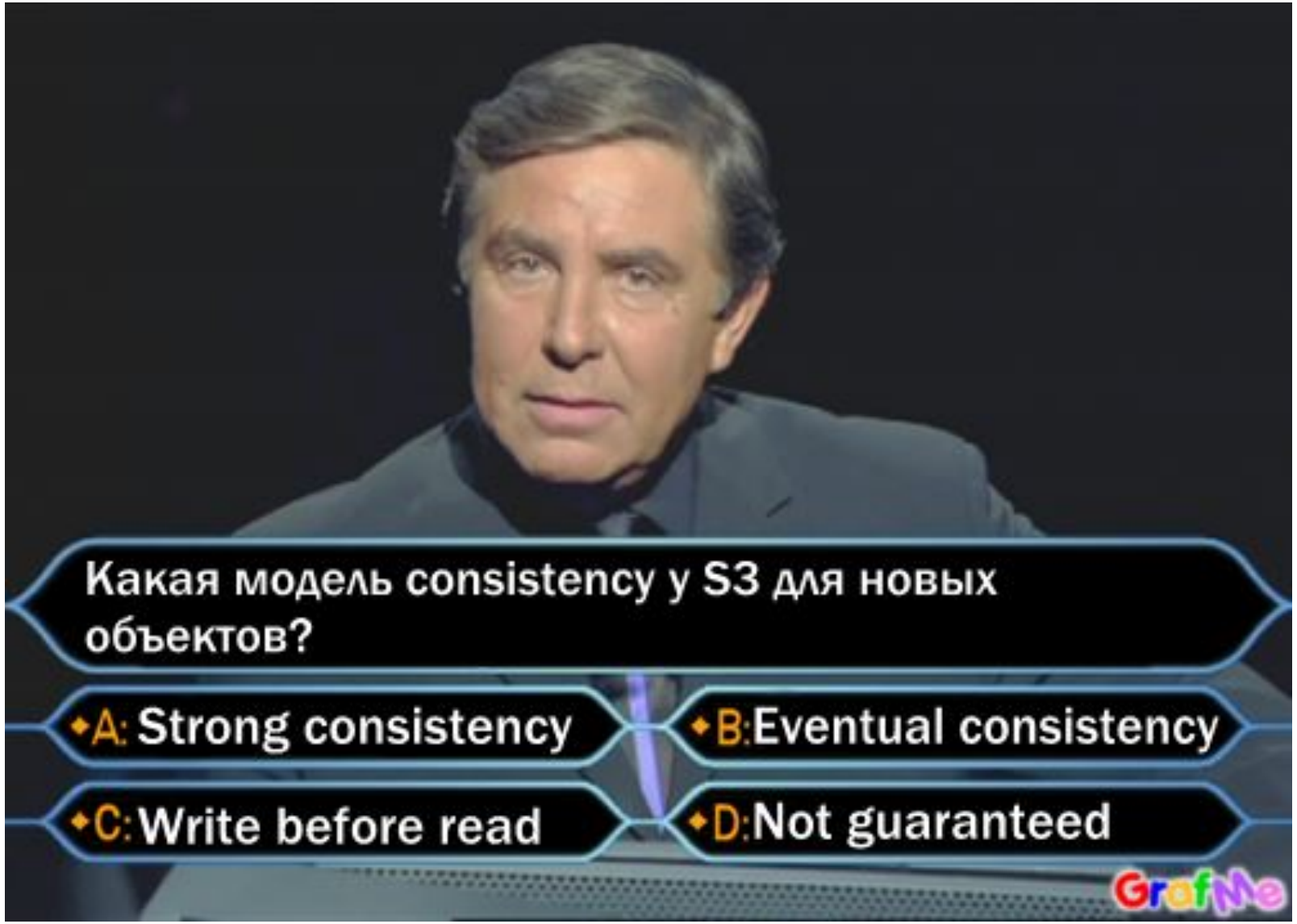
We tried a lot of them

We tried a lot of them

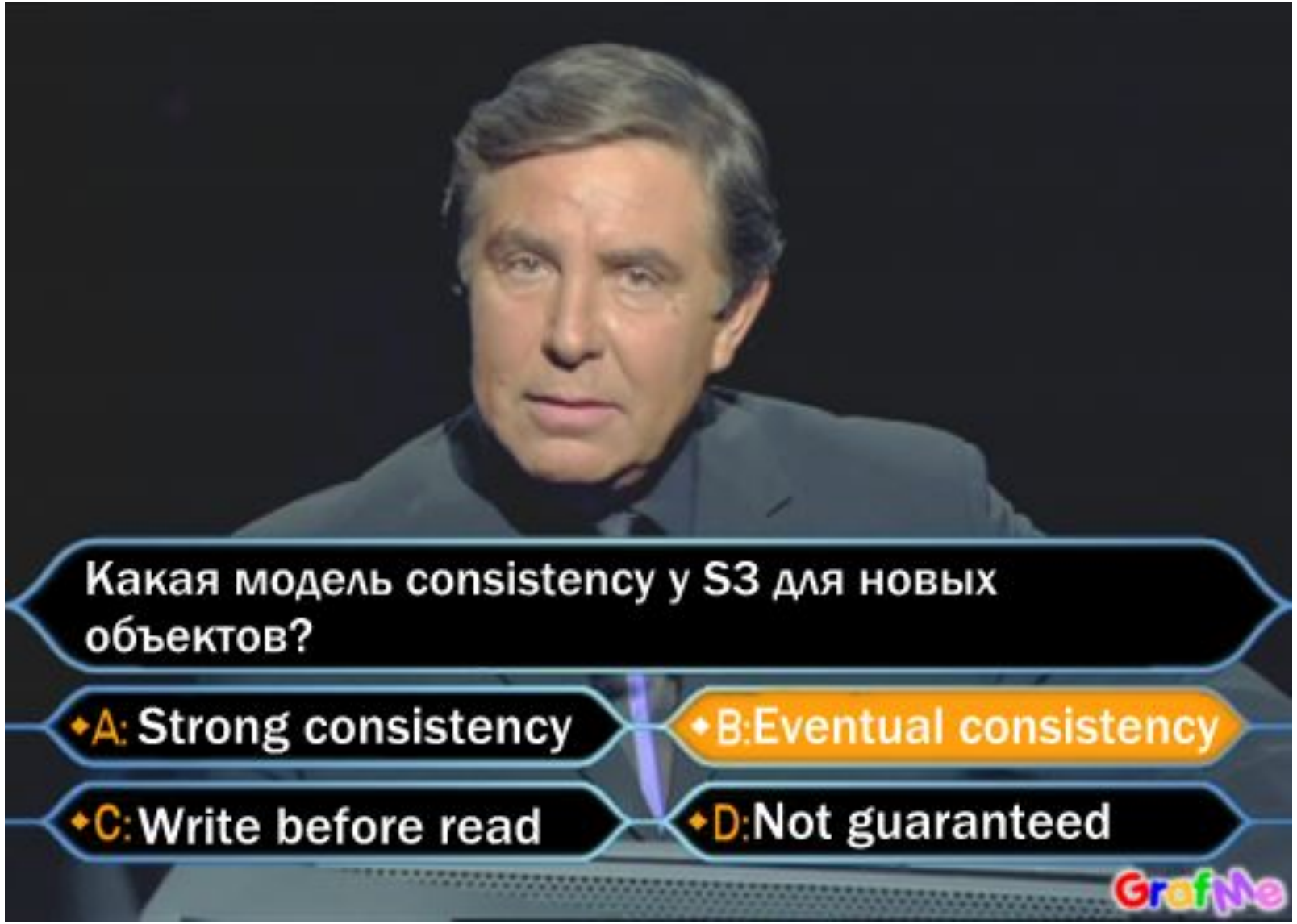
Swift

Что я вам скажу за Swift?
Ну, скажем так, мы переехали на S3.

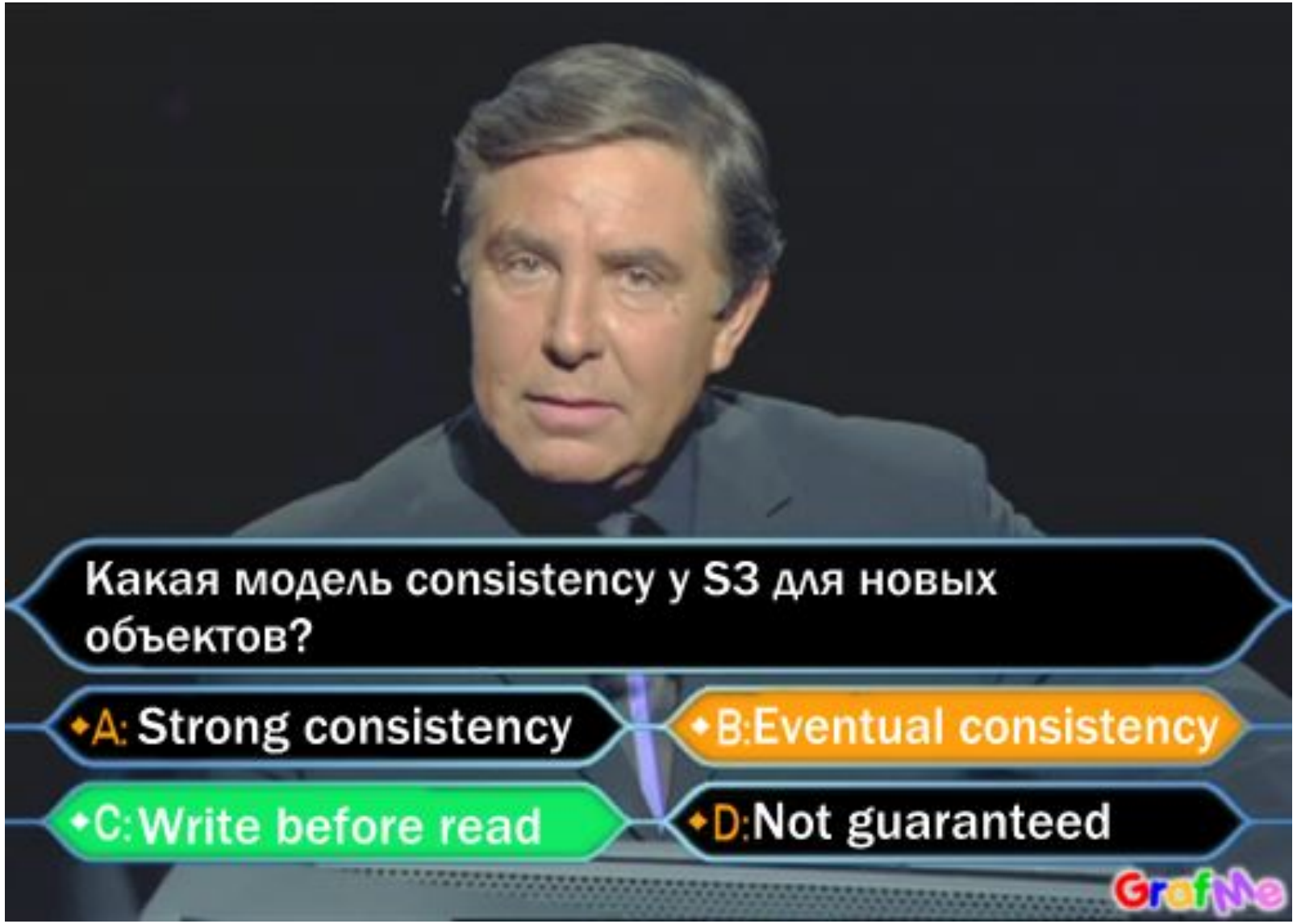
S3 Consistency

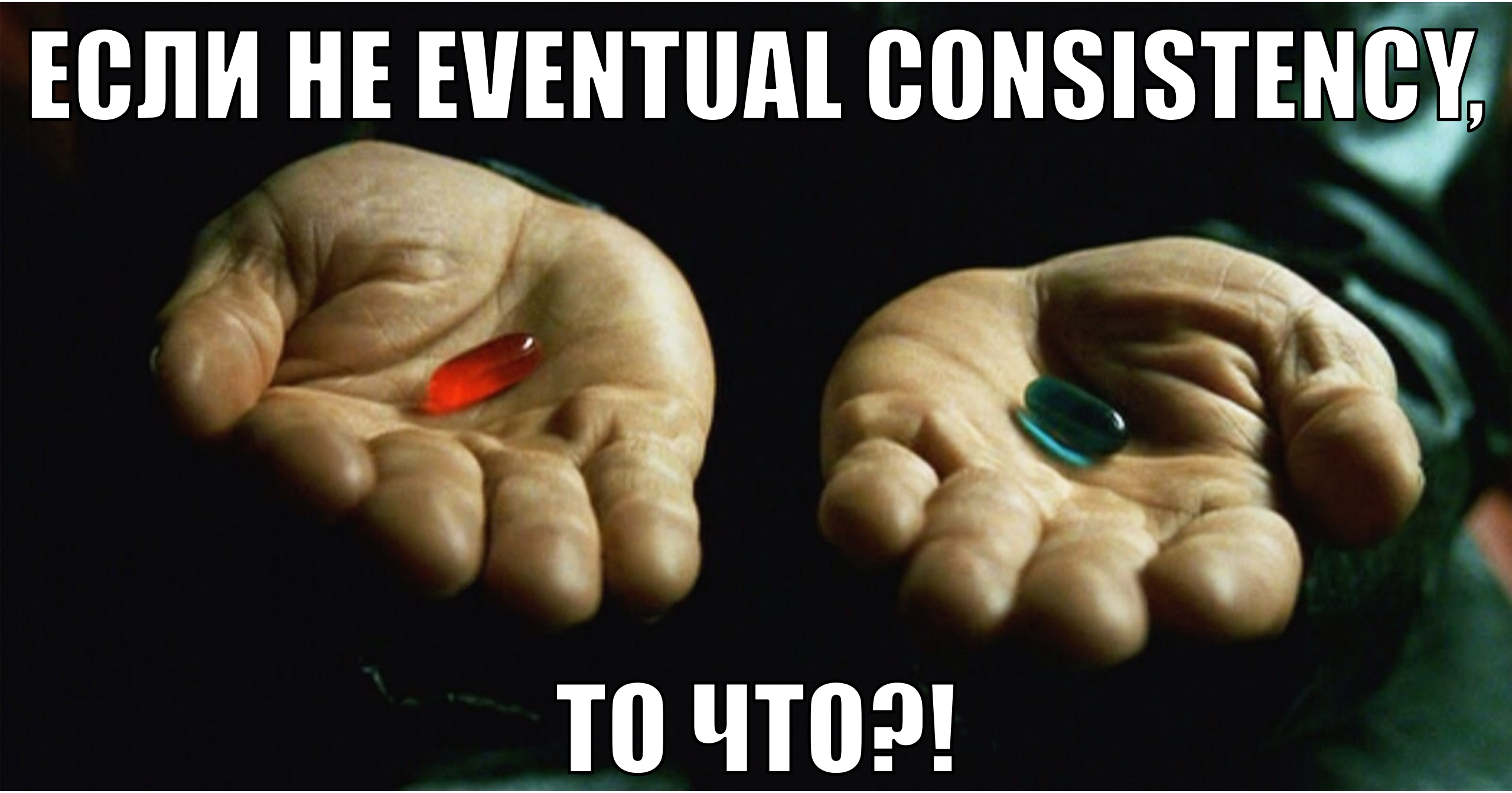


S3 Consistency



S3 Consistency




ЕСЛИ НЕ EVENTUAL CONSISTENCY,
ТО ЧТО?!

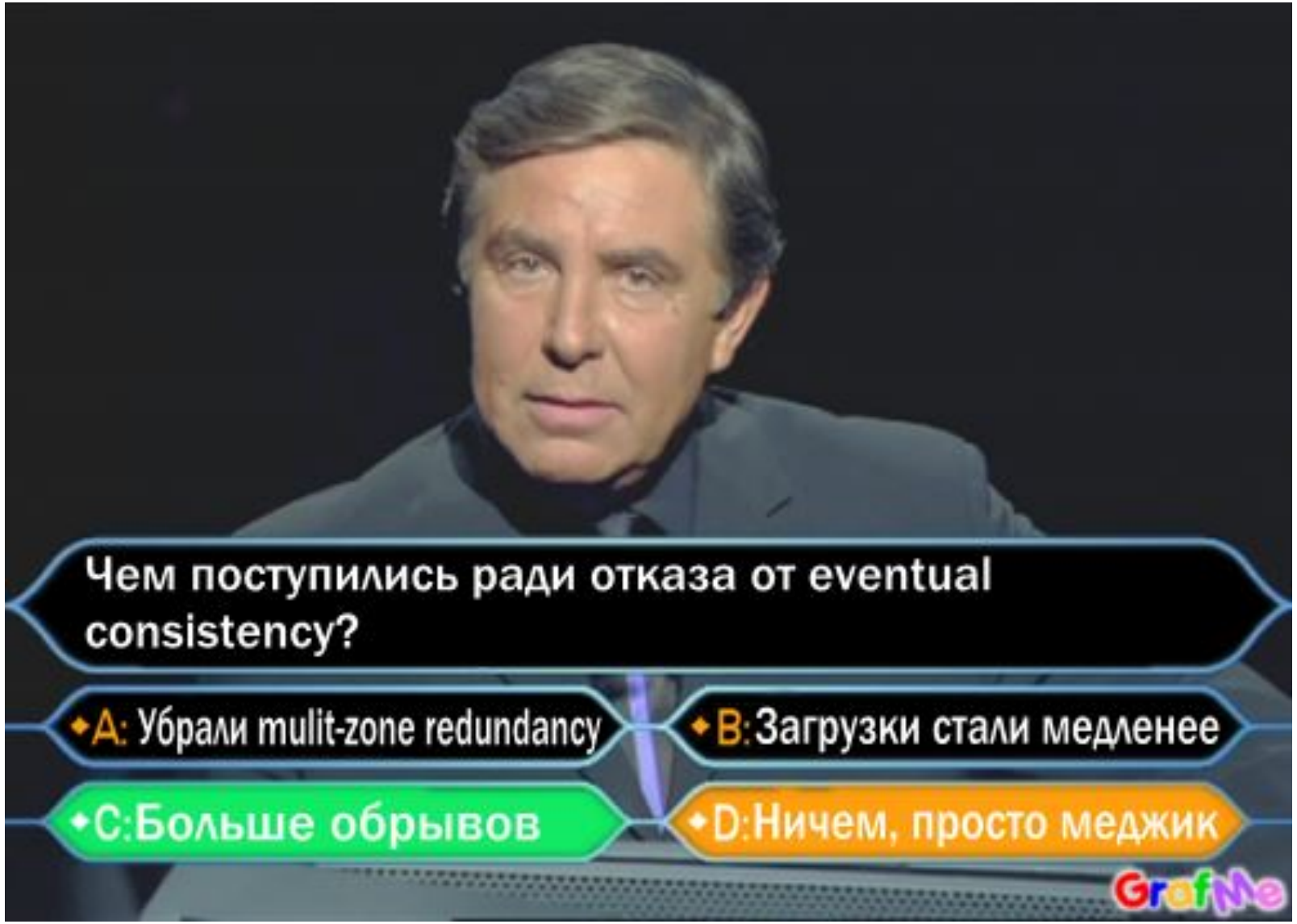
Что вместо?


Чем поступились ради отказа от eventual consistency?
A: Убрали mulit-zone redundancy
B: Загрузки стали медленее
C: Больше обрывов
D: Ничем, просто меджик
GrafMe

Что вместо?

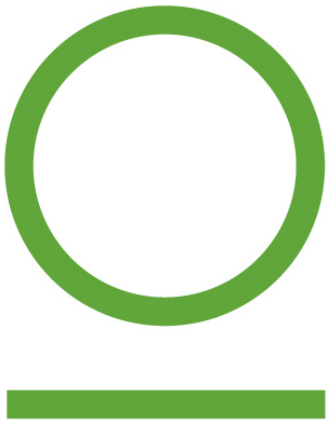

Чем поступились ради отказа от eventual consistency?
A: Убрали mulit-zone redundancy
B: Загрузки стали медленее
C: Больше обрывов
D: Ничем, просто меджик
GrafMe

Что вместо?


Чем поступились ради отказа от eventual consistency?
A: Убрали mulit-zone redundancy
B:Загрузки стали медленее
C:Больше обрывов
D:Ничем, просто меджик
GrafMe

Хмм, чем бы кэшировать файлы?

Внезапно!



JFrog Artifactory

Спасены!

Спасены!

- Все первым делом заливается в artifactory

Спасены!

- Все первым делом заливается в artifactory
- Большие файлы кэшируются пока не зальются на s3

Спасены!

- Все первым делом заливается в artifactory
- Большие файлы кэшируются пока не зальются на s3
- Маленькие файлы кэширутся навсегда (redundancy)

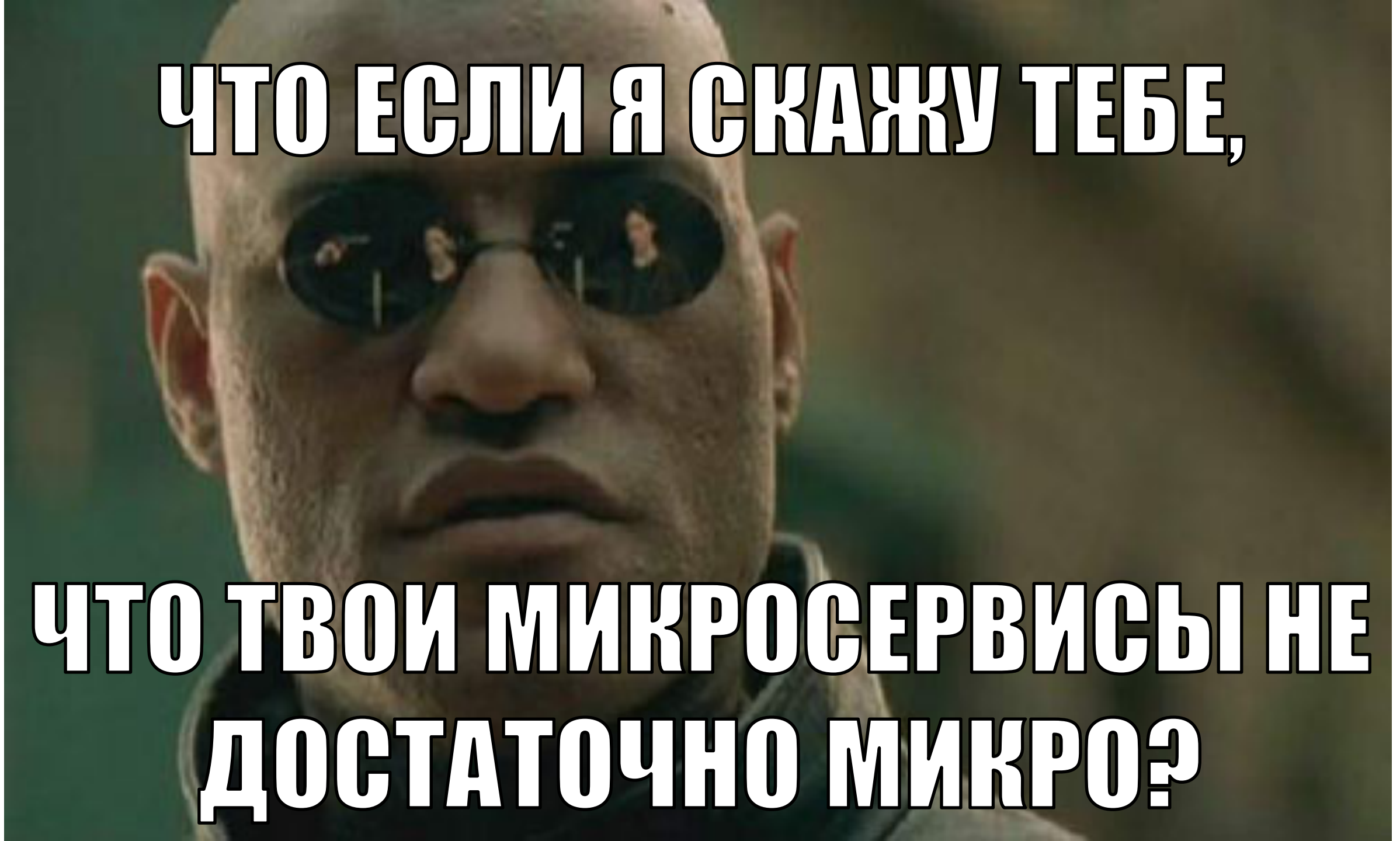
Спасены!

- Все первым делом заливается в artifactory
- Большие файлы кэшируются пока не зальются на s3
- Маленькие файлы кэширутся навсегда (redundancy)
- Все раздается вместе через virtual repository (оба кэша + s3)

Асинхронные сервисы

Очереди + состояние

Очереди


ЧТО ЕСЛИ Я СКАЖУ ТЕБЕ,
ЧТО ТВОИ МИКРОСЕРВИСЫ НЕ ДОСТАТОЧНО МИКРО?

RPM

Redhat
YUM
4 XML+GZ
Repository

POM

Java
Maven
1 XML
Module

DEB

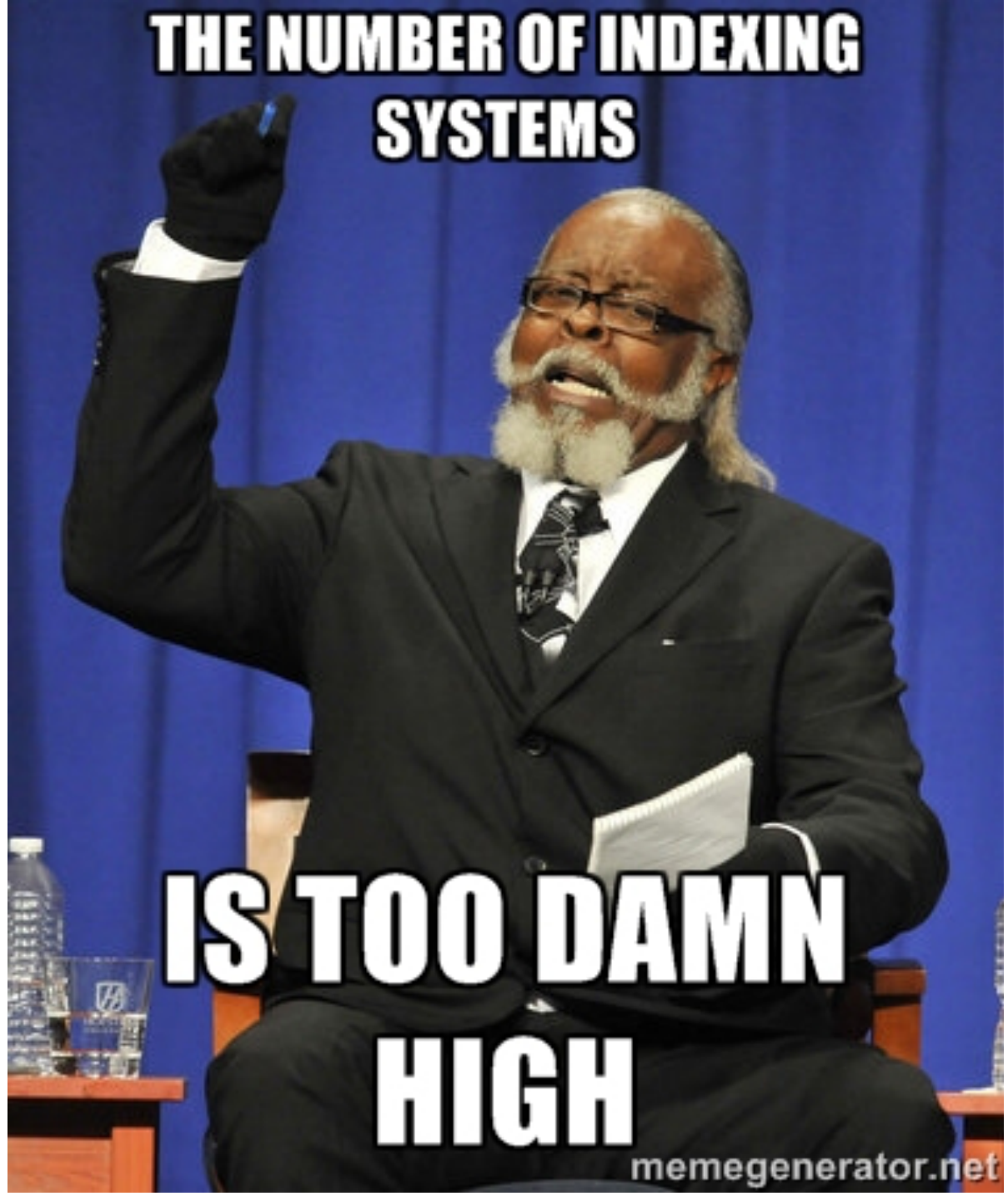
Debian
APT
1 TEXT/GZ
Structured

Достаточно тяжелая операция

Для 100к файлов:

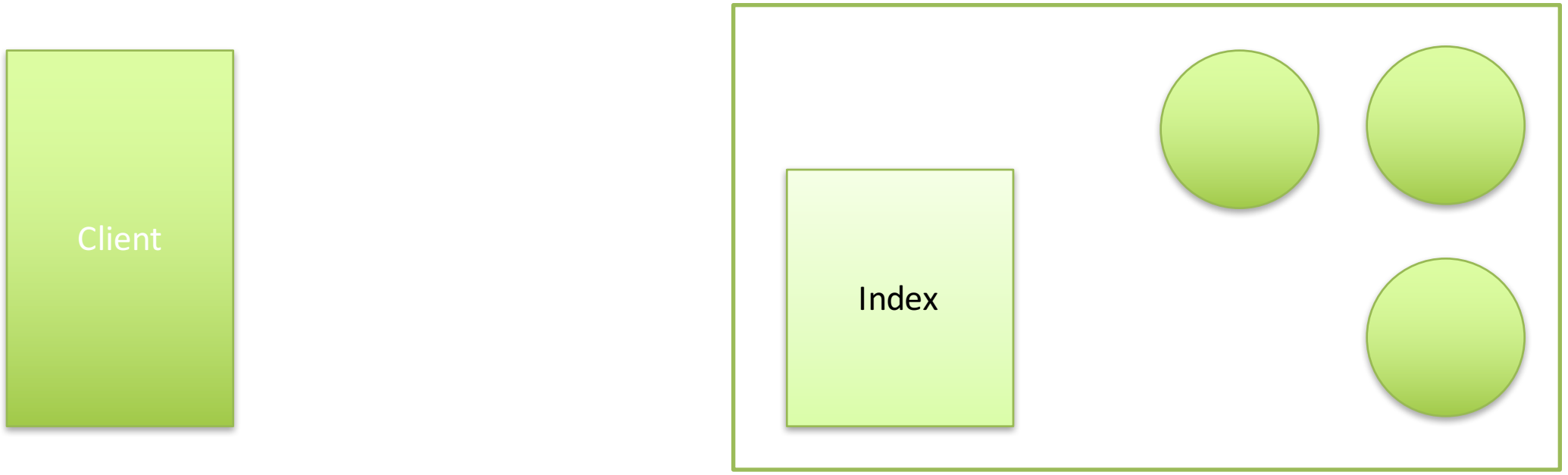
– Час индексации

– 100мв индекс-файл

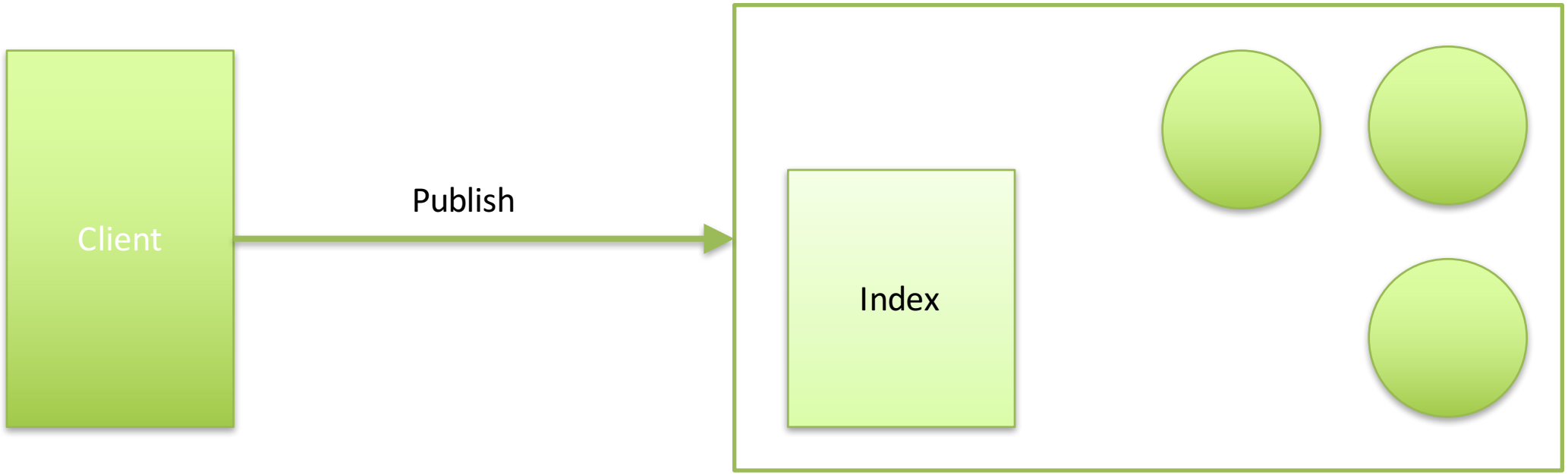

THE NUMBER OF INDEXING SYSTEMS
IS TOO DAMN HIGH
memegenerator.net

FUNDAMENTAL THEOREM OF SOFTWARE ENGINEERING

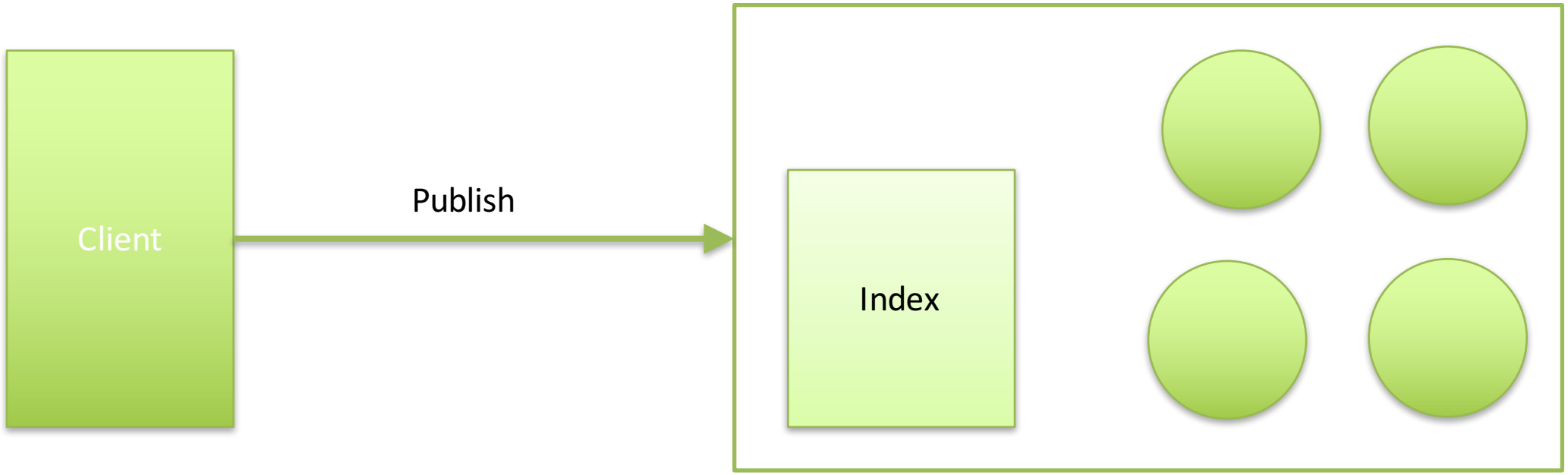
repomd



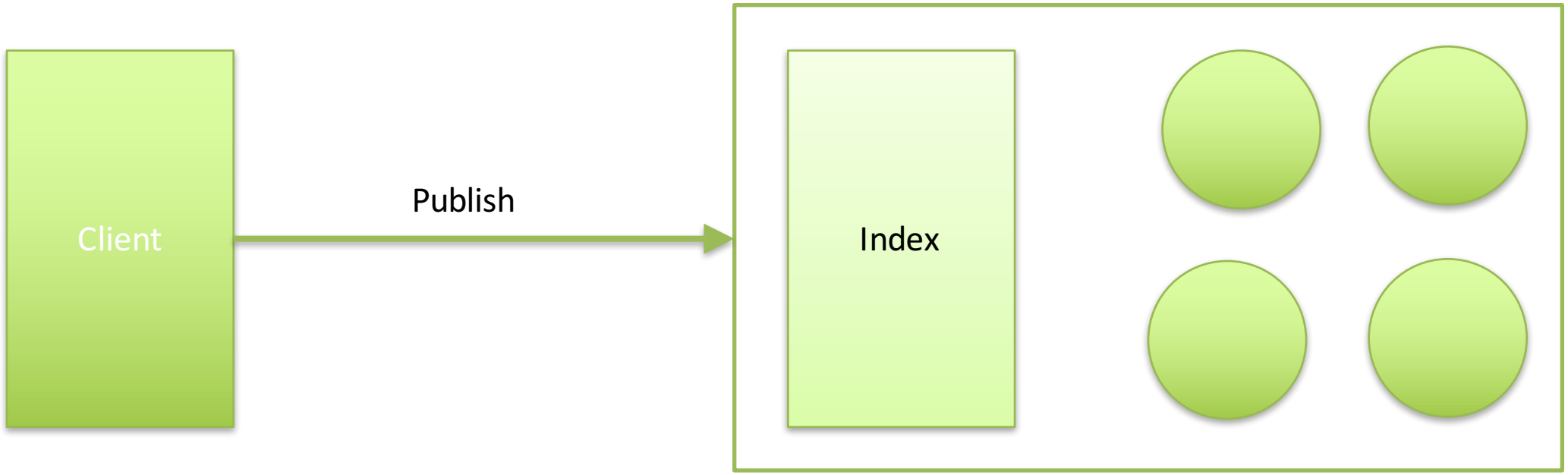
repomd

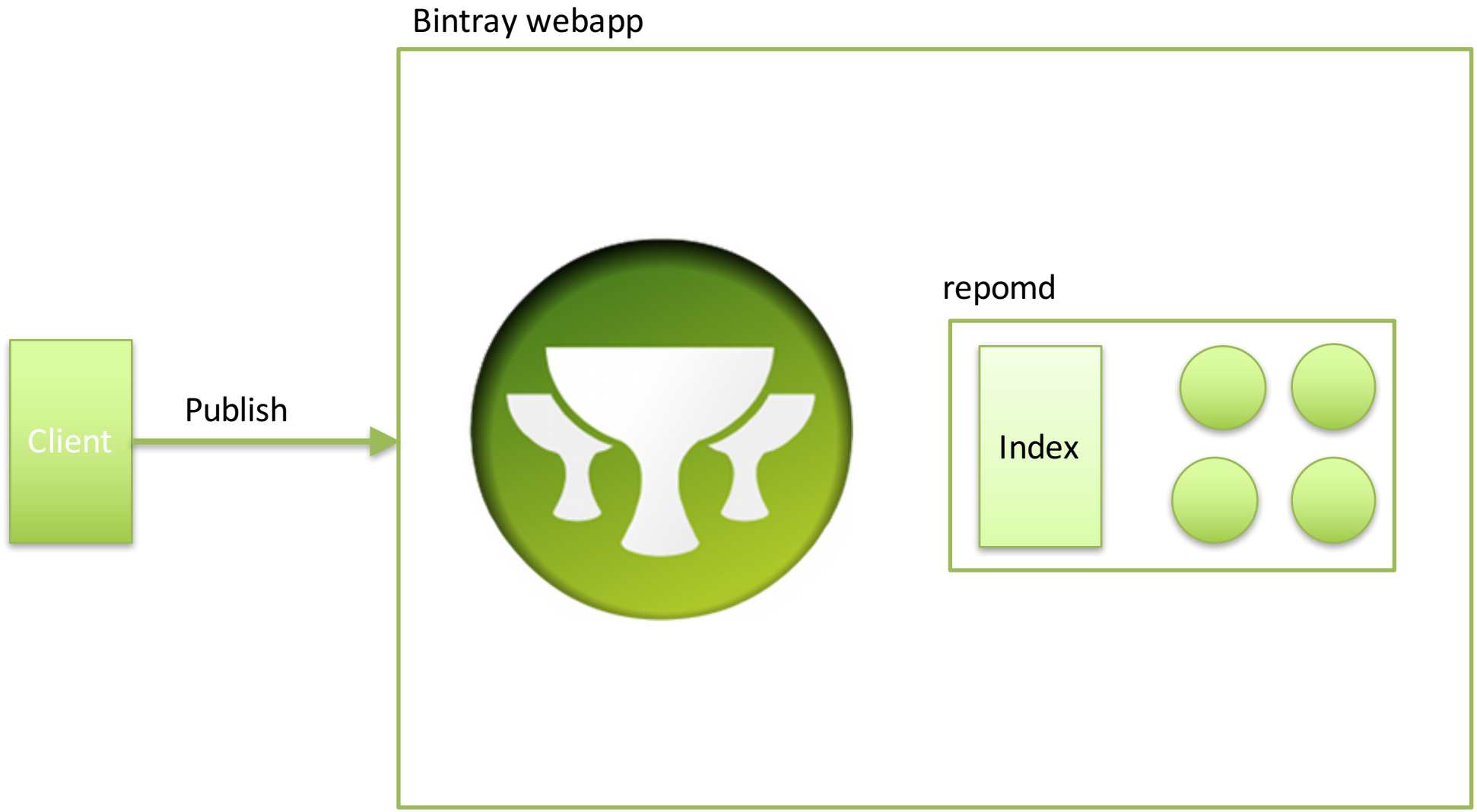


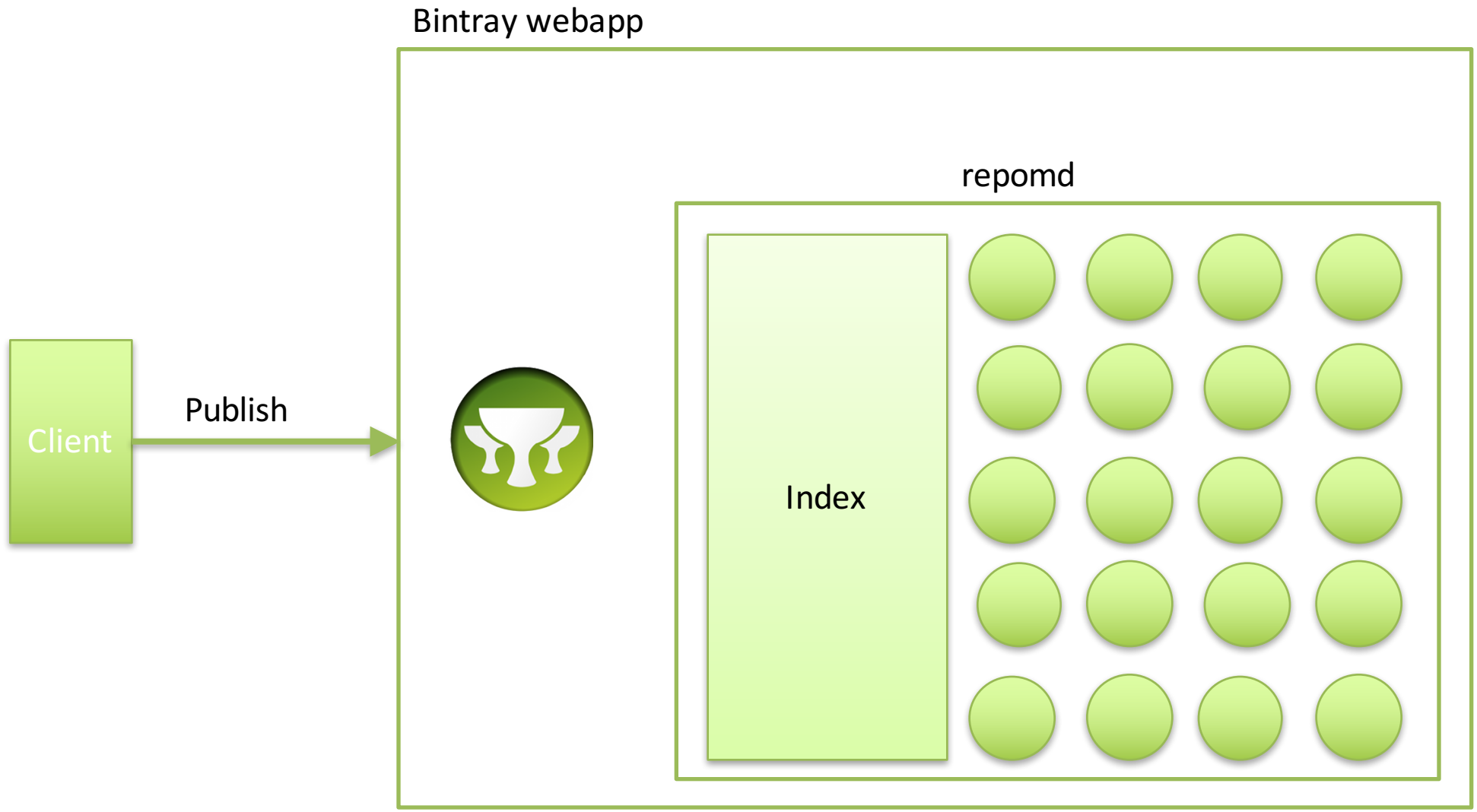
repomd



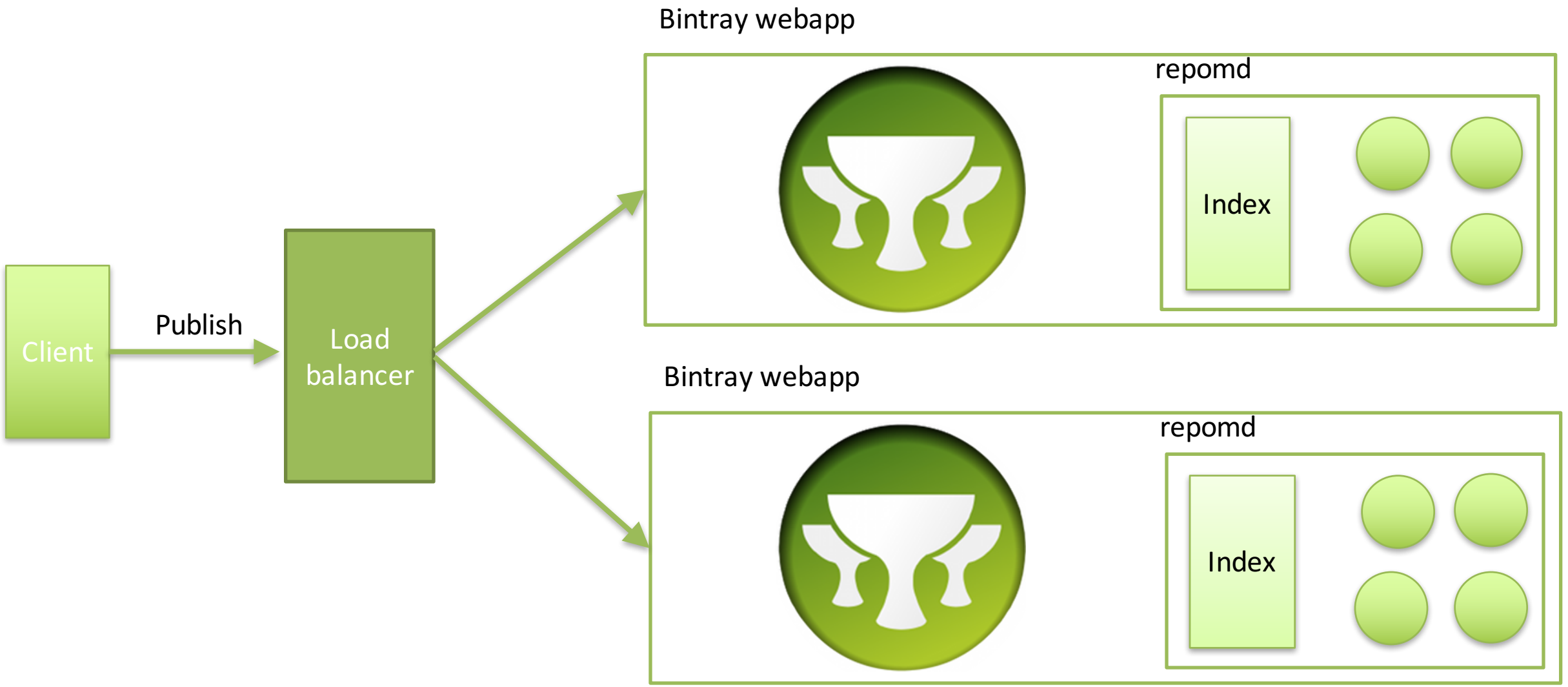
repomd




Bintray webapp
Client
Publish
repomd
Index


Bintray webapp
repomd
Index
Client
Publish

А с кластером то что делать?!



Дробить, дробить и дробить, как завещал великий роджерс

Дробить, дробить и дробить, как завещал великий роджерс

– Отдельный редис для каждого индекса

Дробить, дробить и дробить, как завещал великий роджерс

- Отдельный редис для каждого индекса
- Редис принимает запросы

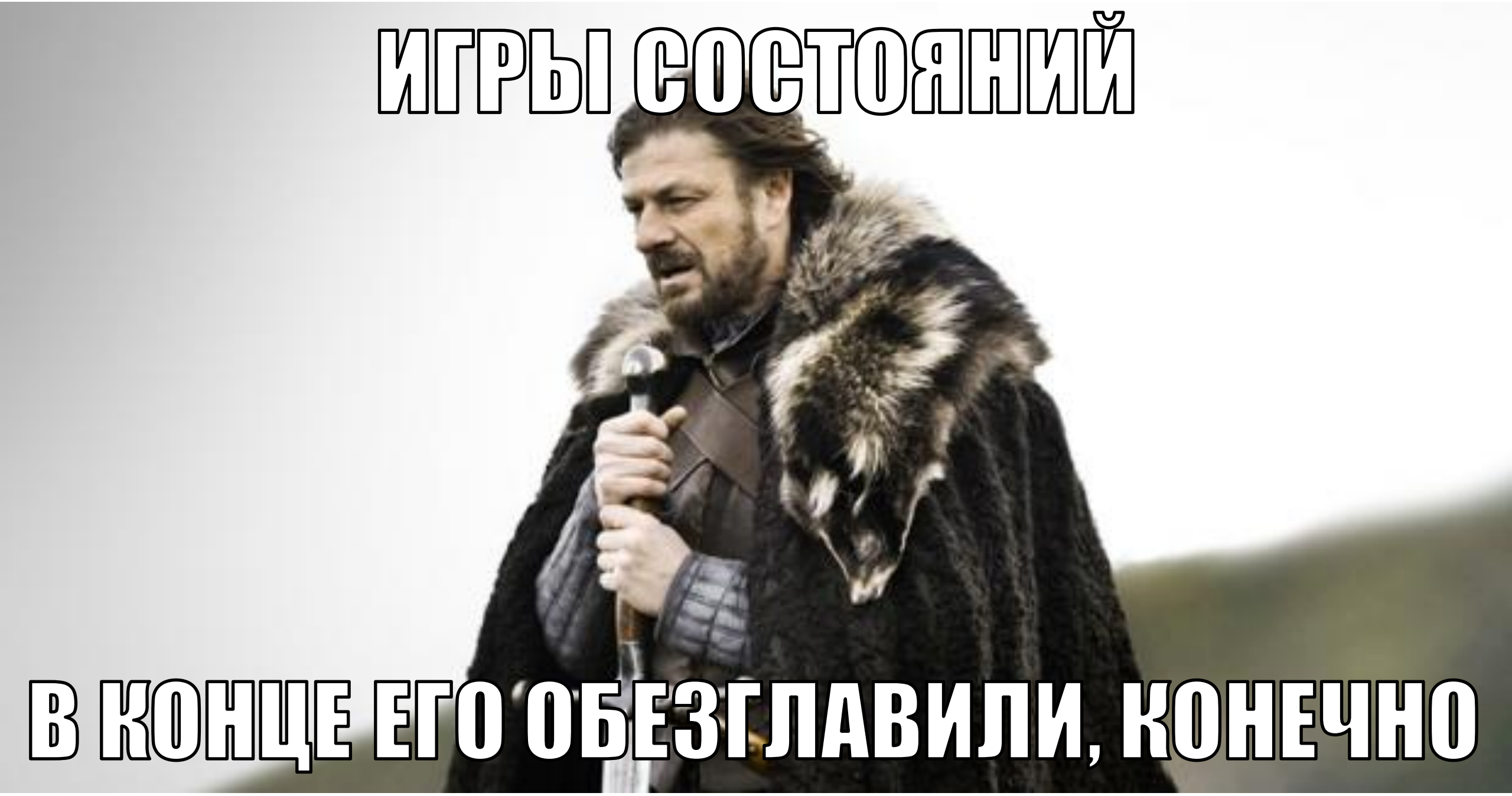
Дробить, дробить и дробить, как завещал великий роджерс

- Отдельный редис для каждого индекса
- Редис принимает запросы
- Редис поддерживает состояние

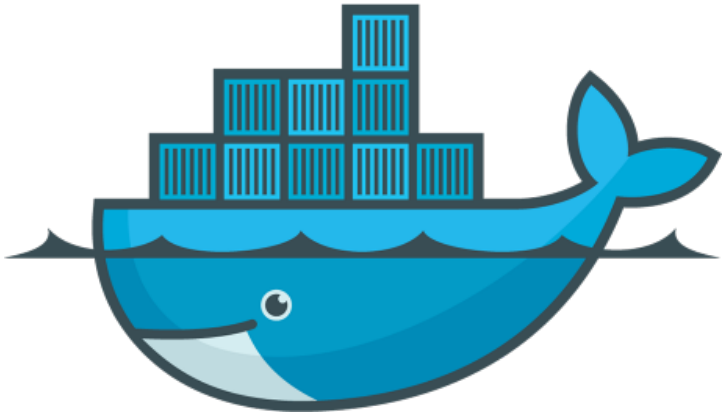
Дробить, дробить и дробить, как завещал великий роджерс

- Отдельный редис для каждого индекса
- Редис принимает запросы
- Редис поддерживает состояние
- Отдельный repomd для каждого индекса

Старый DevEnv and Deploy


ИГРЫ СОСТОЯНИЙ
В КОНЦЕ ЕГО ОБЕЗГЛАВИЛИ, КОНЕЧНО

Новый DevEnv and Deploy



Docker Compose FTW

```
---
mongo:
  image: dev.jfrog.info/mongo
  ports:
   - 27017:27017
couchdb:
  image: dev.jfrog.info/couchdb
   - 5984:5984
elasticsearch:
  image: dev.jfrog.info/elasticsearch
  environment:
   - ES_HEAP_SIZE=512m
  ports:
   - 9200:9200
   - 9300:9300
redis:
  image: dev.jfrog.info/redis
  ports:
   - 6379:6379
```

"Расставашки -
всегда пичалька".

(с) Сократик