Elasticsearch
Производительность моей мечты

MIKHAIL KAVALIOU

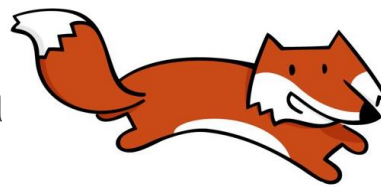March 27, 2019
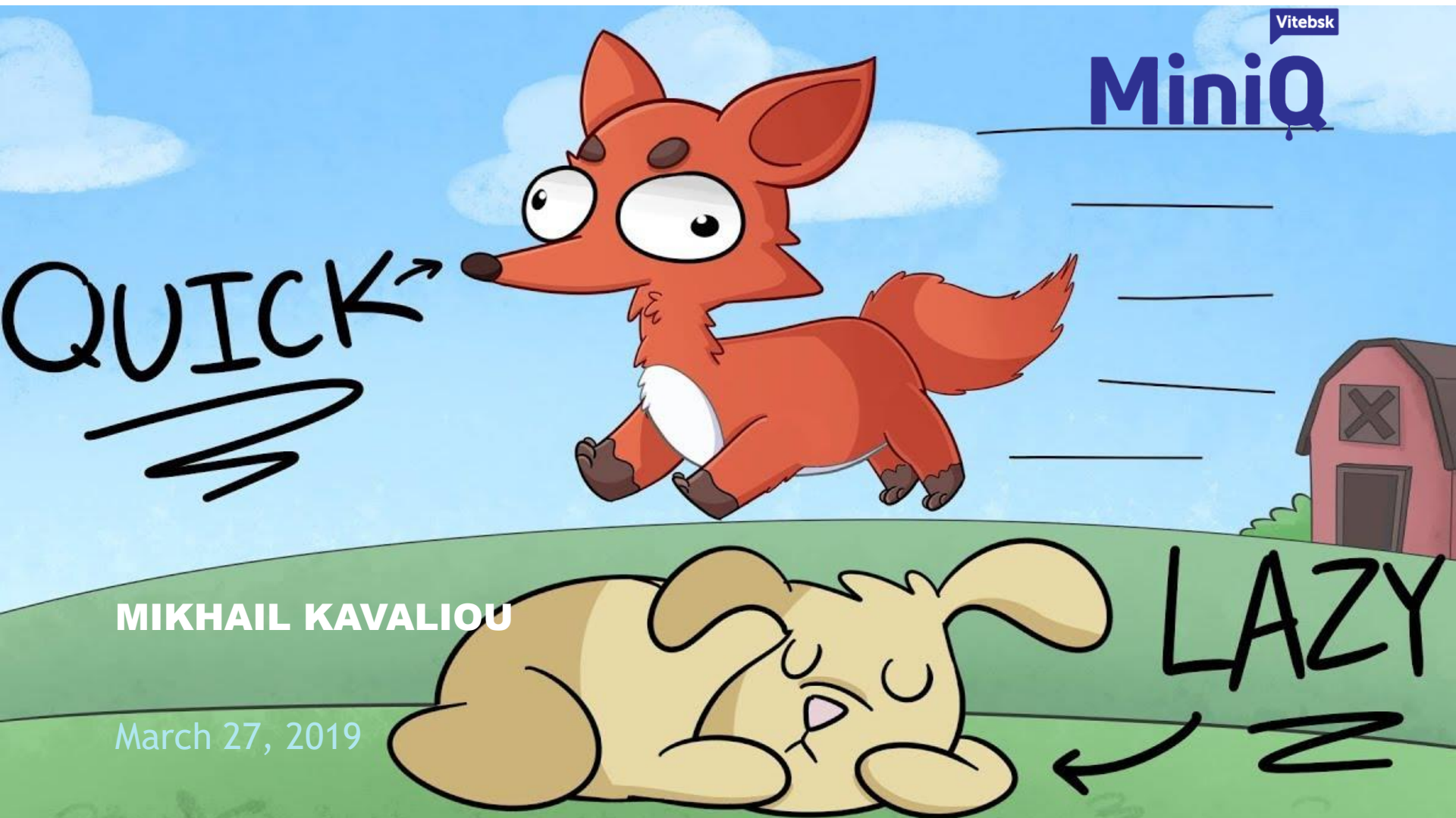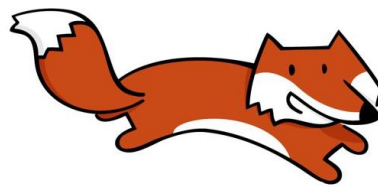
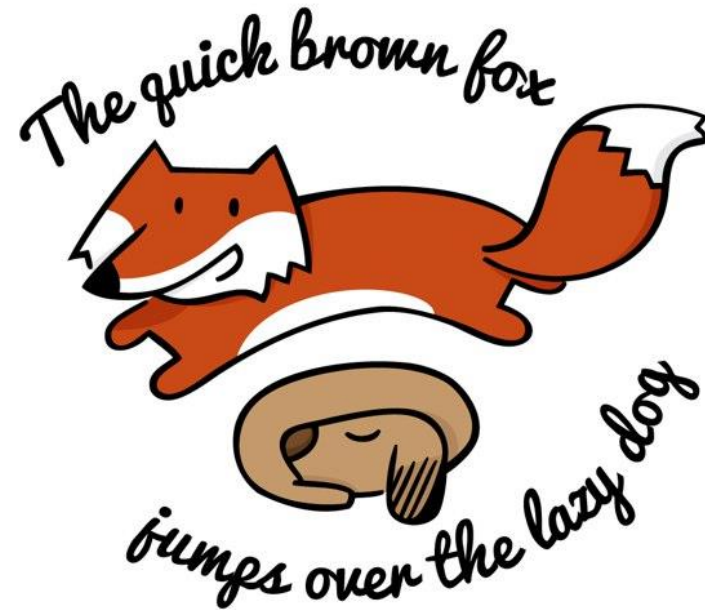# Mikhail Kavaliou
Senior Java Developer

6+ years in Java

3+ years in EPAM

2+ years in ES

A minute for agenda

1 A minute for ES

2 A minute for stats

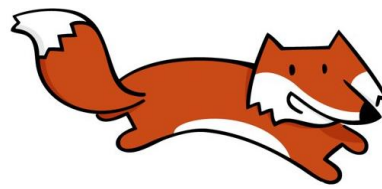3 A minute for examples

4 A minute for questions

The quick brown fox jumps over the lazy dog

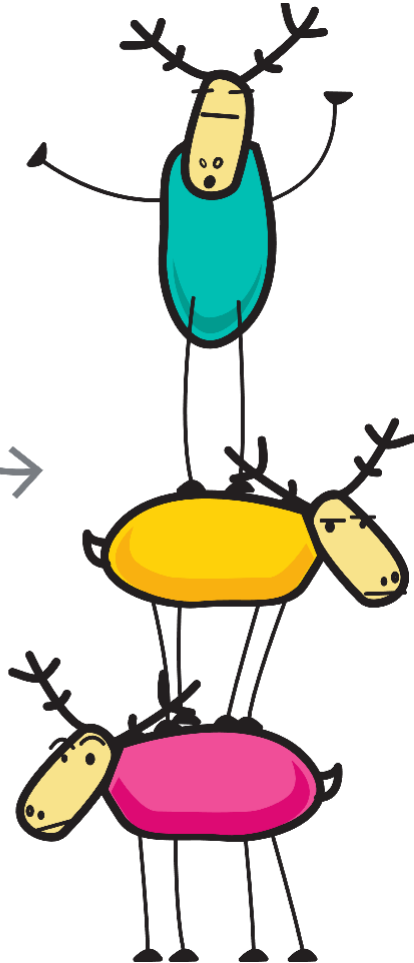# A minute for terms
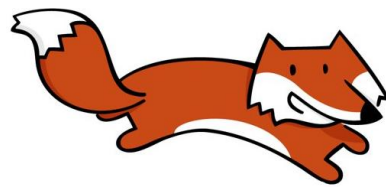
NODE

SHARD

CLUSTER

INDEX

SCHEME (MAPPING)

AGGREGATION

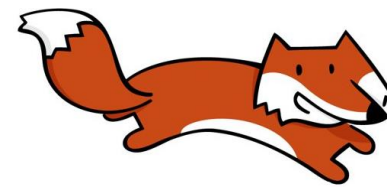ELK Stack!
Get it?

E Elasticsearch

L Logstash

K Kibana

A minute for stats

9-10M calls per day ~ 100-120 RPS

Page Results

Page Type	Pass/Fail	Time to First Byte (TTFB)	Expected TTFB
inv	✓	24	187.0
inv	✓	8	154.0
inv	✓	29	200.0
inv	✓	14	200.0
inv	✓	17	143.0
inv	✓	45	200.0
inv	✓	46	200.0

Coordinating nodes
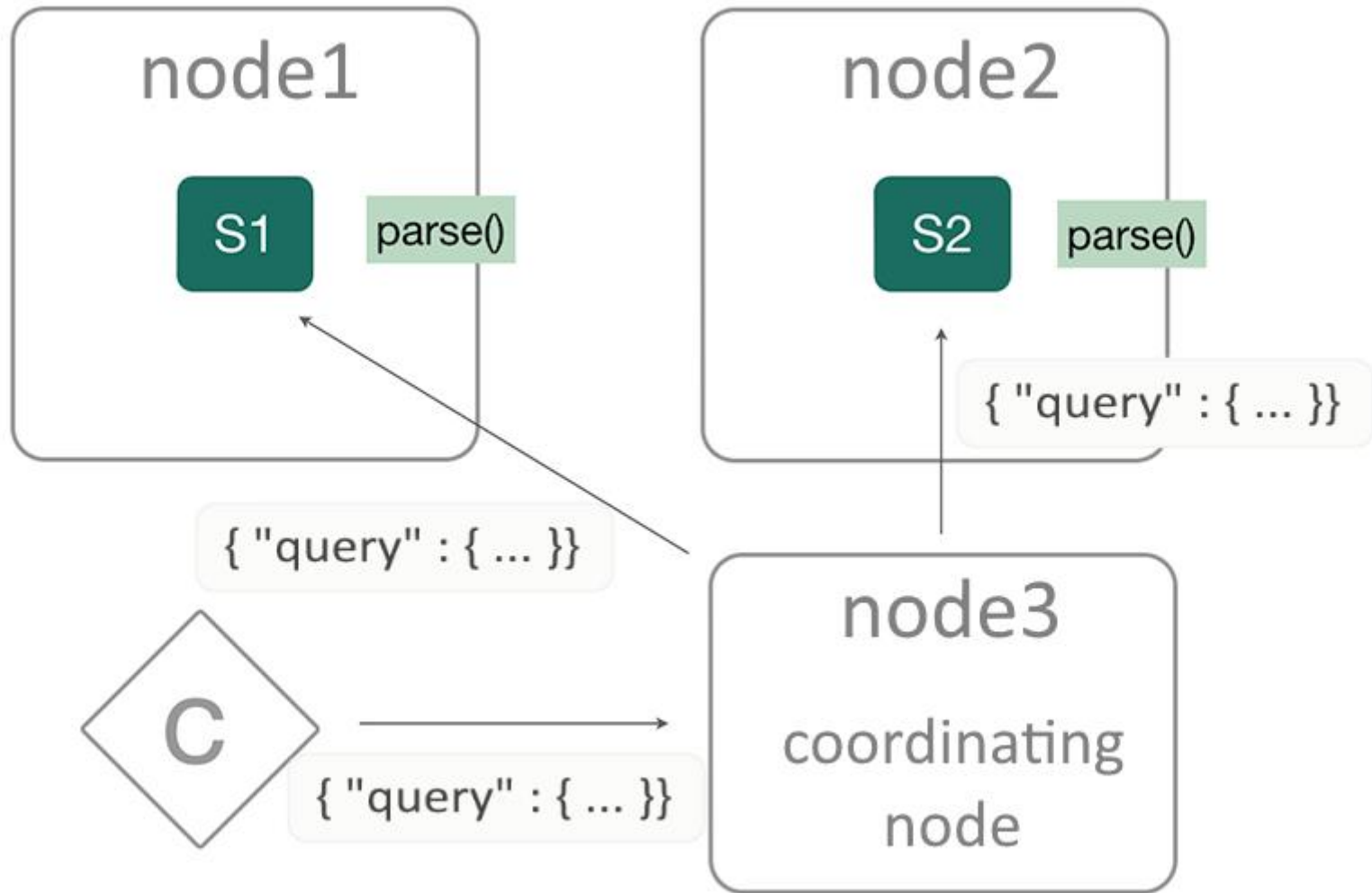
Coordinating nodes

ES client initializing

| ES transport client | ES Cluster | NodesInfo | New ES transport client |

Connect

NodesInfoRequest

NodesInfo
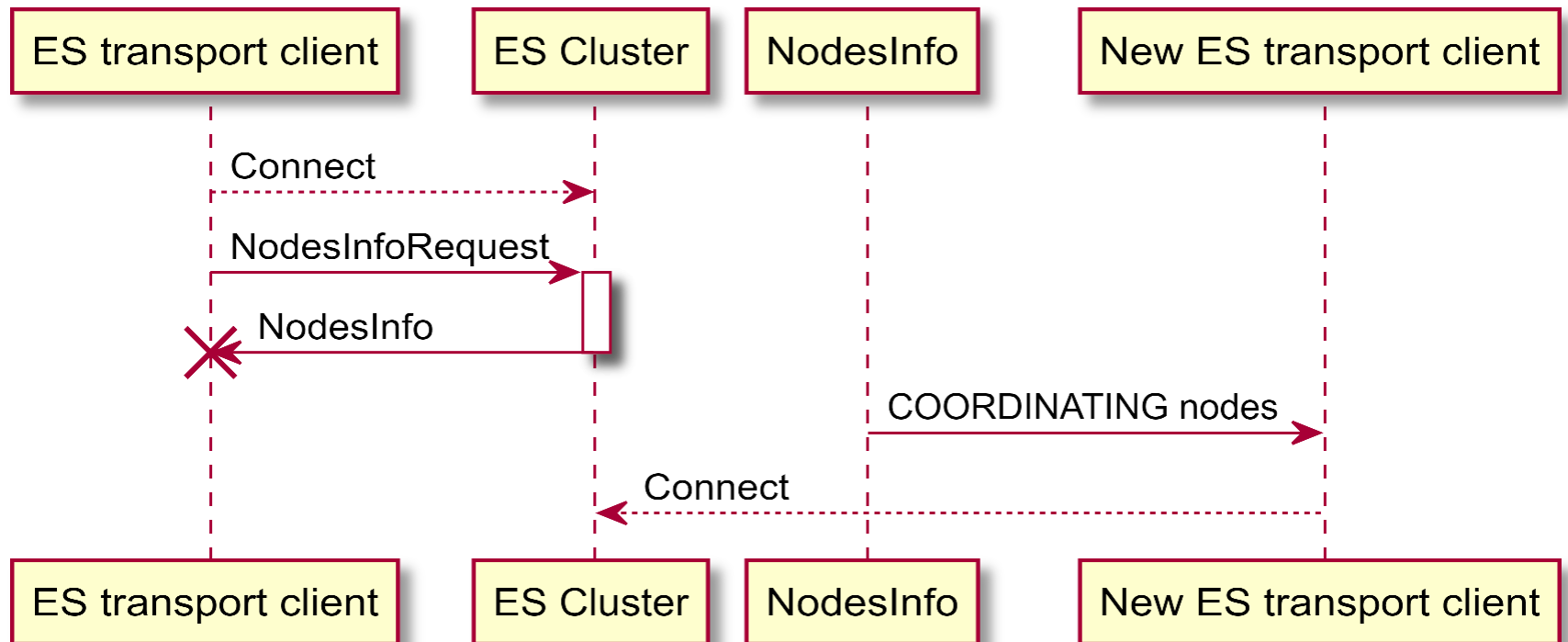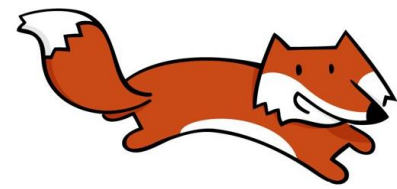
COORDINATING nodes

Connect
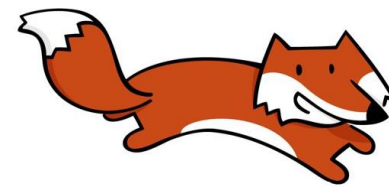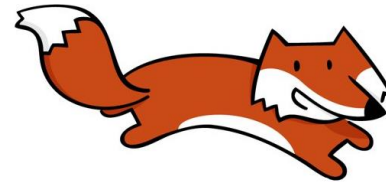
Schema refresh interval

Refresh interval = 60 seconds:
　　Took 37.7823662 seconds.

Default refresh interval (real time):
　　Took 45.6564286 seconds.
　　　　+ 20 %

Данные могут быть недоступны для чтения в течение заданного периода refresh interval – **eventual consistency**

Routings

Операции поиска с использованием routing –
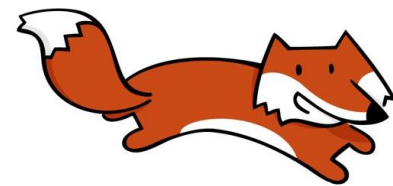2 шарды по 50k записей
Total hits: 50000

Операции поиска без routing
Total hits: 100000

Эффект: поиск на 50%+ быстрее

Поиск только по id становится недоступен,
параметр routing обязателен.

A minute for summary

Правильный mapping: ускорение индексации
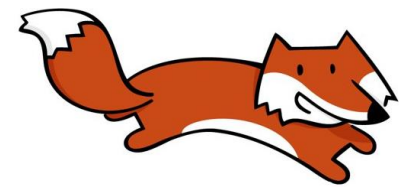
Timeout: максимальное время выполнения

Сокращение накладных расходов:
- Projection
- Aggregations
- Filter vs must
- Multisearch

Coordinating nodes: повышение устойчивости к нагрузке

Routing: точечный поиск

A minute for docs

1. https://www.elastic.co/guide/en/elasticsearch/reference/current/index.html

2. https://www.elastic.co/blog

3. https://github.com/MikhailKavaliou/miniqEsPerformanceOfMyDreamExamples

4. RESTER REST Plugin:
    1. https://addons.mozilla.org/en-US/firefox/addon/rester/
    2. https://chrome.google.com/webstore/detail/rester/eejfoncpjfgmeleakejdcanedmefagga?hl=en

A minute for questions???