Making and keeping Netflix highly available
MesosCon Europe 2017

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NETFLIX

By the numbers.

100+ Million
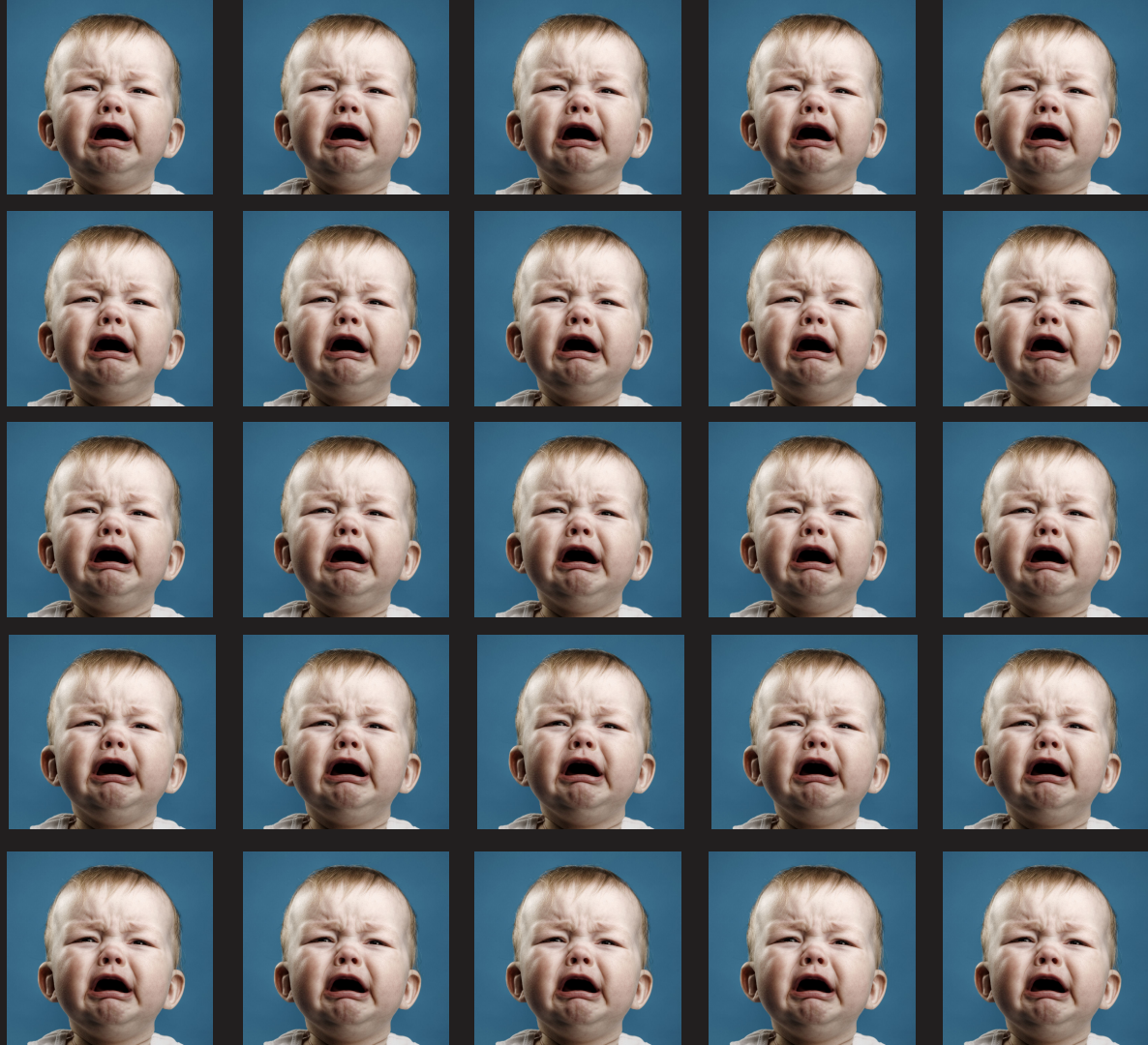
Customers

We want

100+ Million
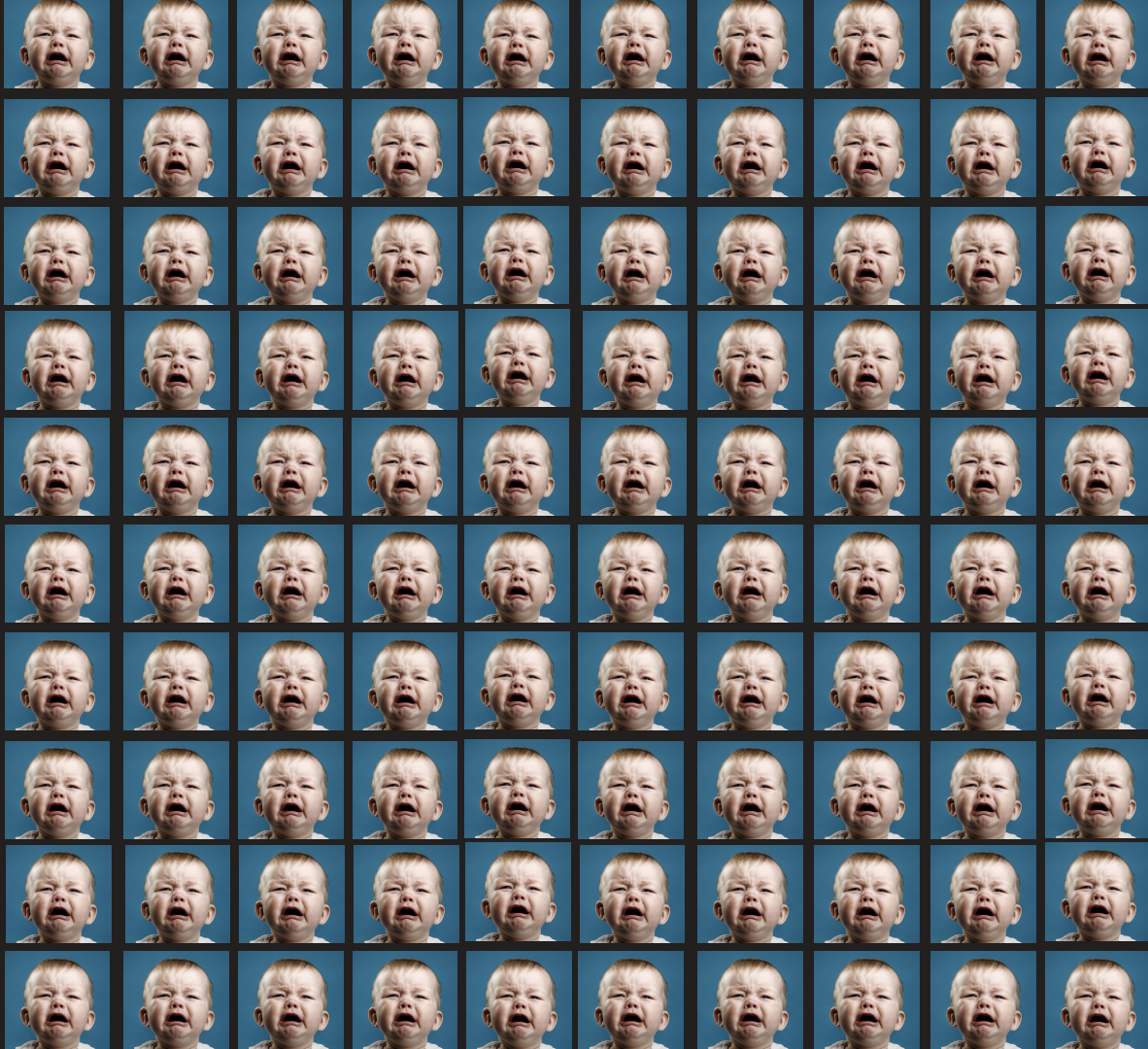
Happy customers.
But sometimes, something
goes wrong.

One unhappy customer

25 unhappy customers

100 unhappy
customers

Guess how many?

900, and they're already faceless

By the numbers.

100+ Million
Customers

125+ Million
Hours watched per day

380
Micro-services in production

1000+
Device types

By the numbers.

< 10

Core SREs

What??
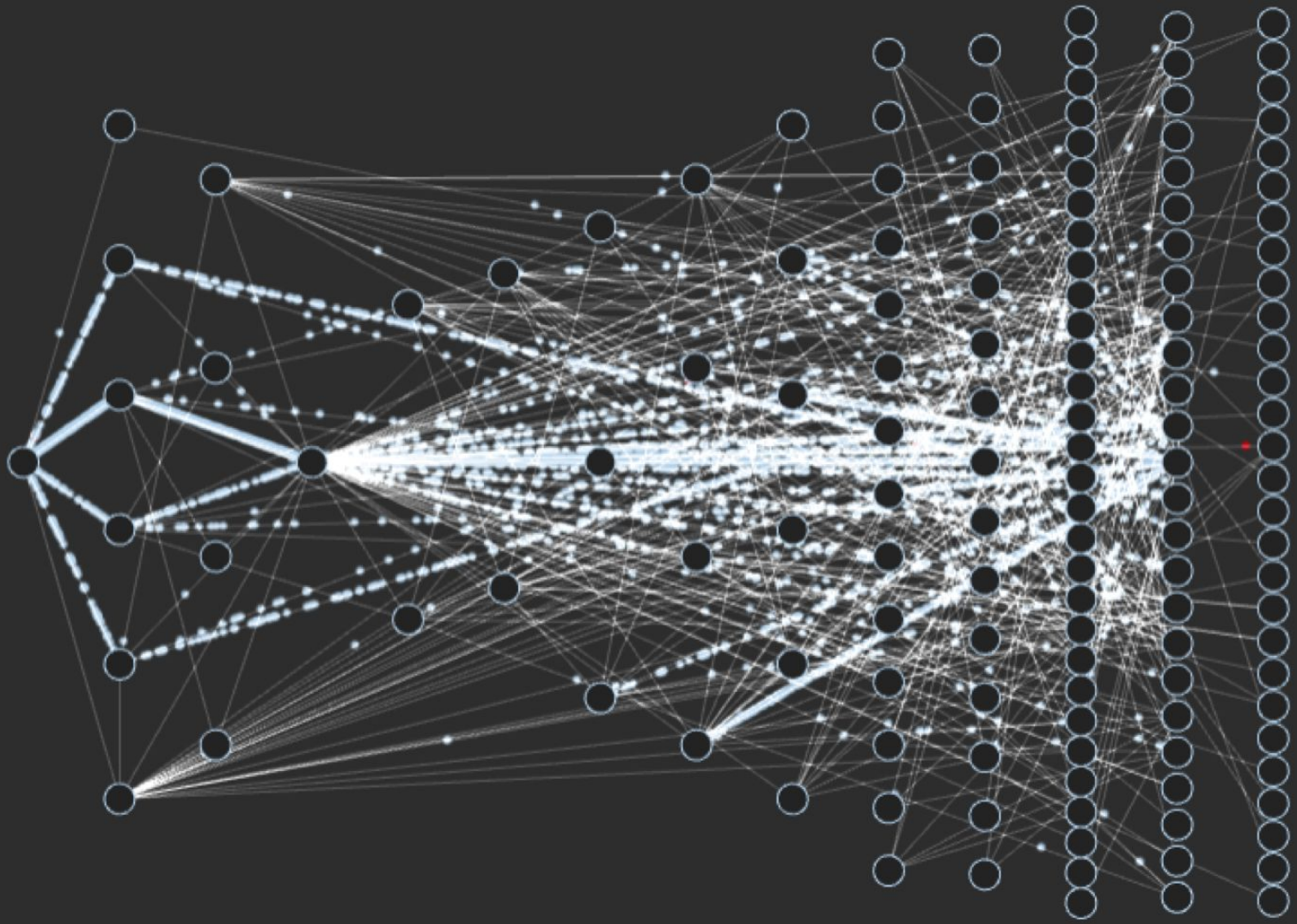
Insights are everything

Mantis overview

Micro-service Clusters

kafka

amazon web services™ S3

Mantis
Stream processing
Cloud native service

Anomaly Detection

Operational Dashboards

Alerts

- Configurable message delivery guarantees
- Heterogeneous workloads
  - Real-time dashboarding, alerting
  - Anomaly detection, metric generation
  - Interactive exploration of streaming data
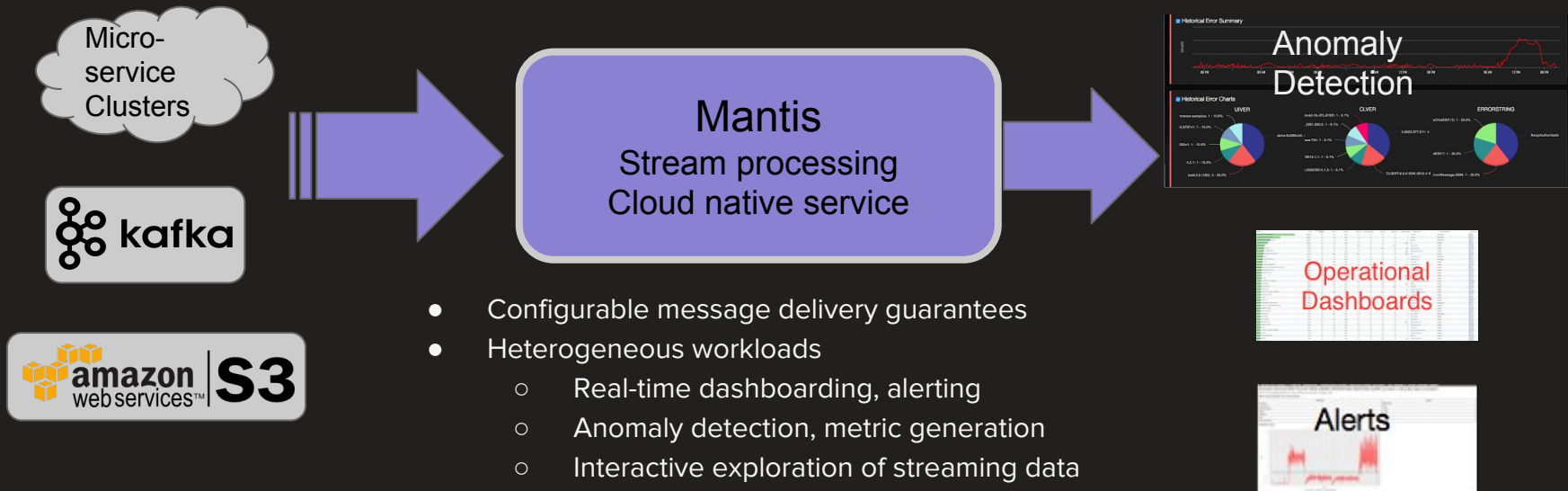
Core architectural components

Mantis Framework

Fenzo

Fenzo Scheduler

Apache Mesos

AWS EC2
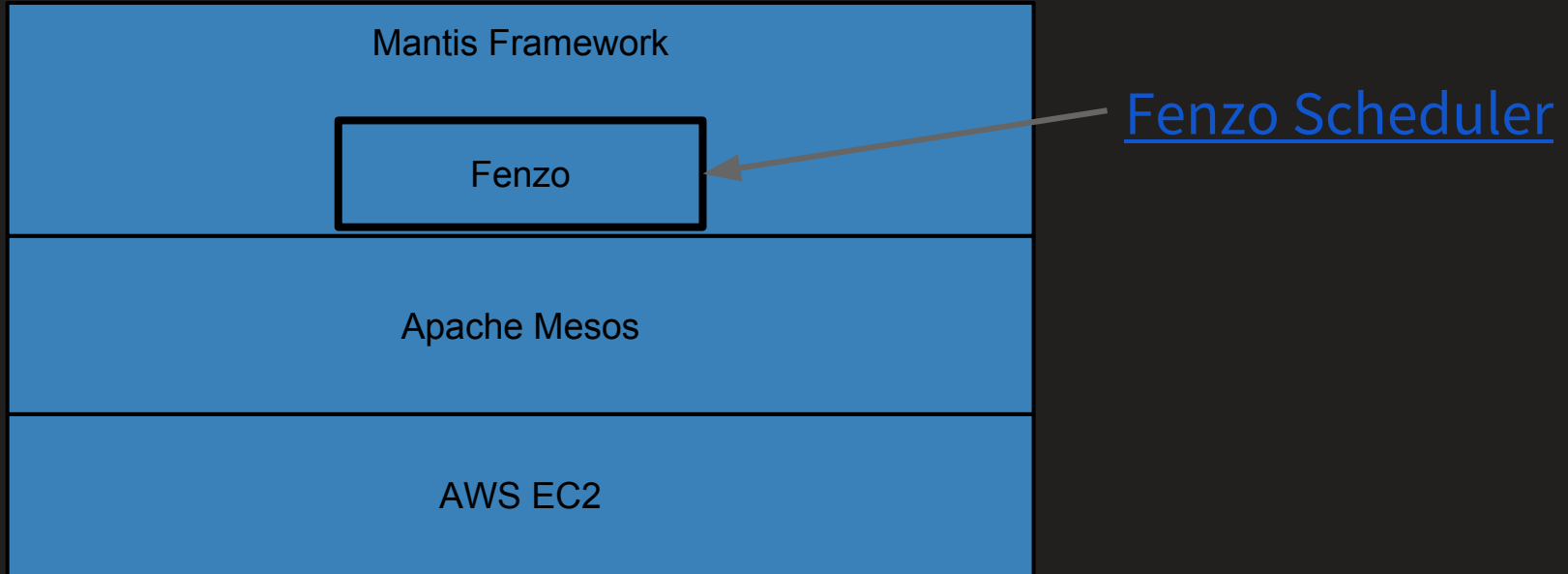
Fenzo

Optimized for cloud

Scale underlying agent cluster

Fitness criteria, e.g.,
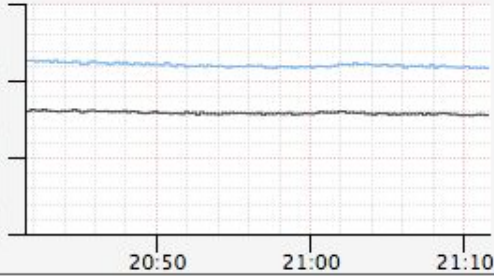- bin packing
- spreading tasks across EC2 AZs for high availability

Real-time SPS

Real-time SPS

MANTIS   US-West SPS w/ DES

Regional SPS

20:50   21:00   21:10
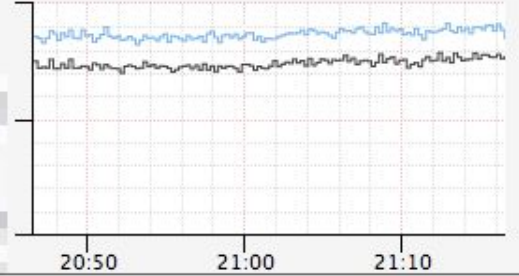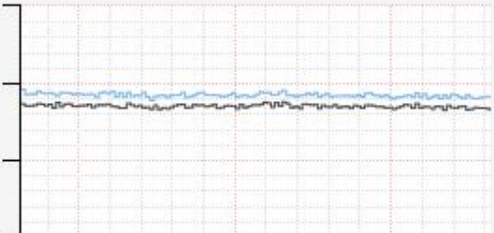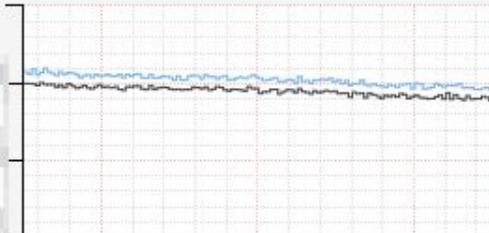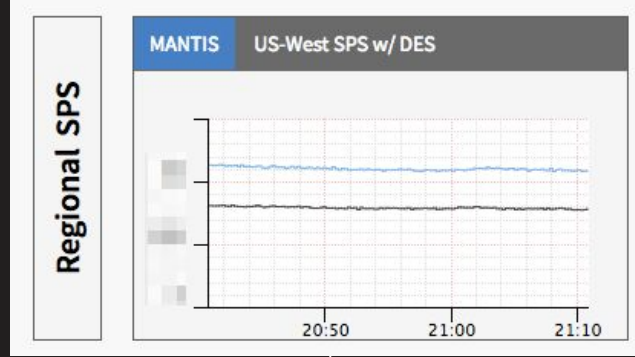
Know something is
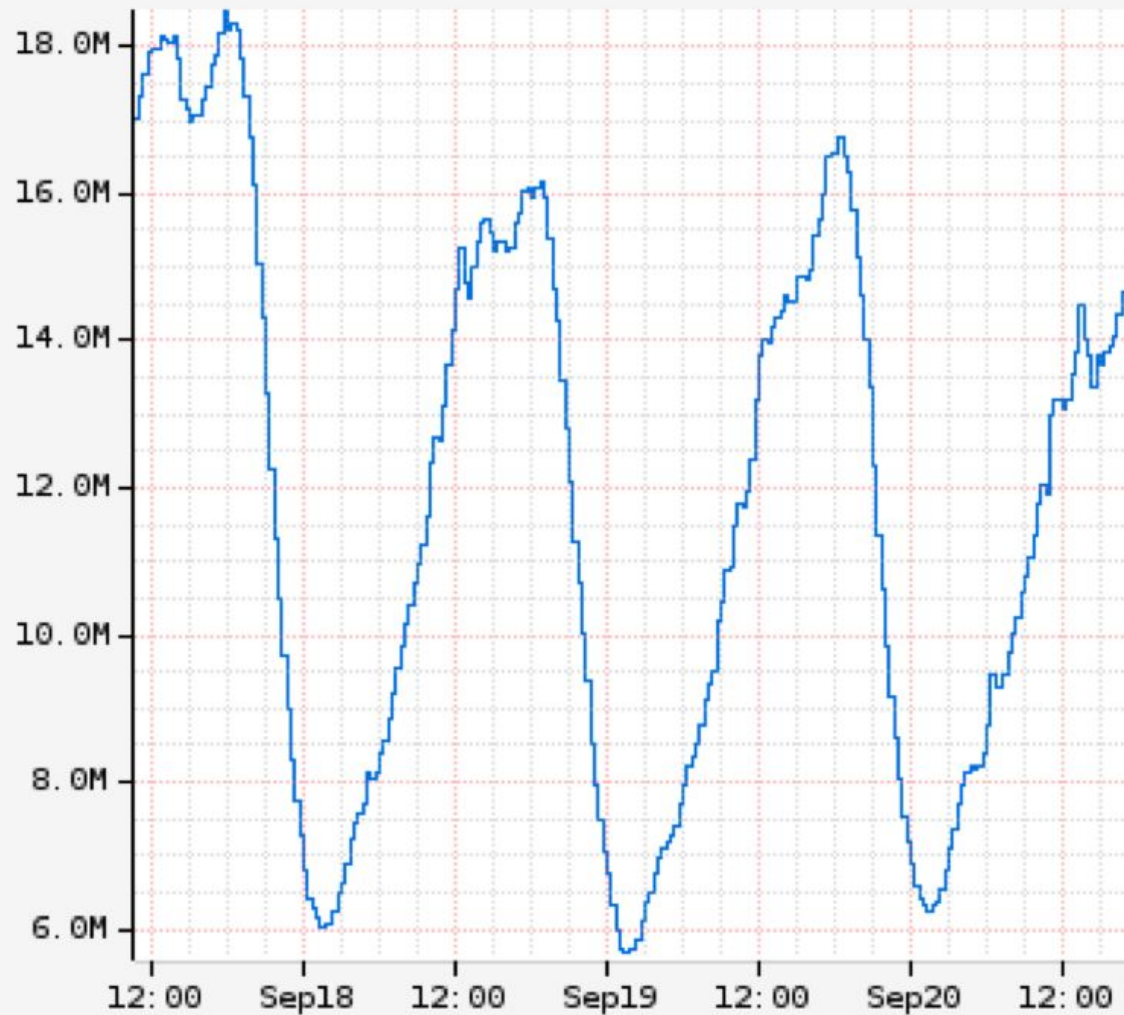wrong in seconds, not
minutes

Breakdown by region

Breakdown by
device type

Real-time metrics
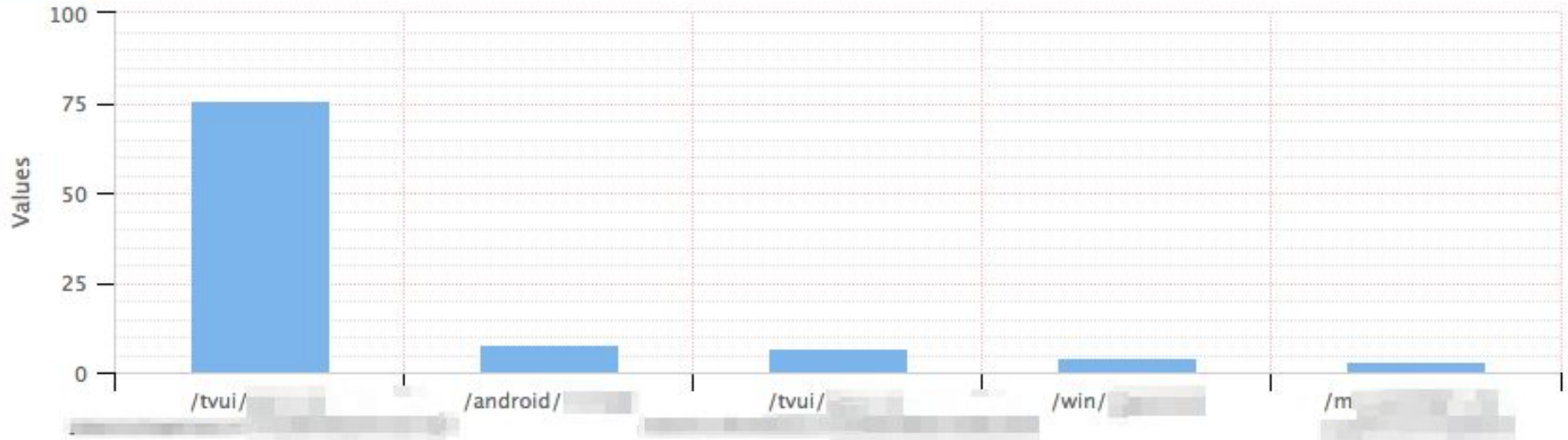
Autoscaling

18+ million / sec messages at peak

Streaming on demand

Ad-hoc queries

Source

APIRequestSource ▾

Select fields in event | Select All

path ✕   esn ✕   method ✕   duration ✕   response.header.X-Netflix.dependency-command.executions ✕   status ✕   ▾

Conditions   **Edit Raw**

duration 🔍	== ▾	number ▾		✕
response.header 🔍	== ▾	string ▾		✕
status 🔍	== ▾	number ▾		✕
path 🔍	== ▾	string ▾		✕

Environment

◉ test

○ prod

⬤ Fetch only a 2% sample

Region(s)

us-east-1
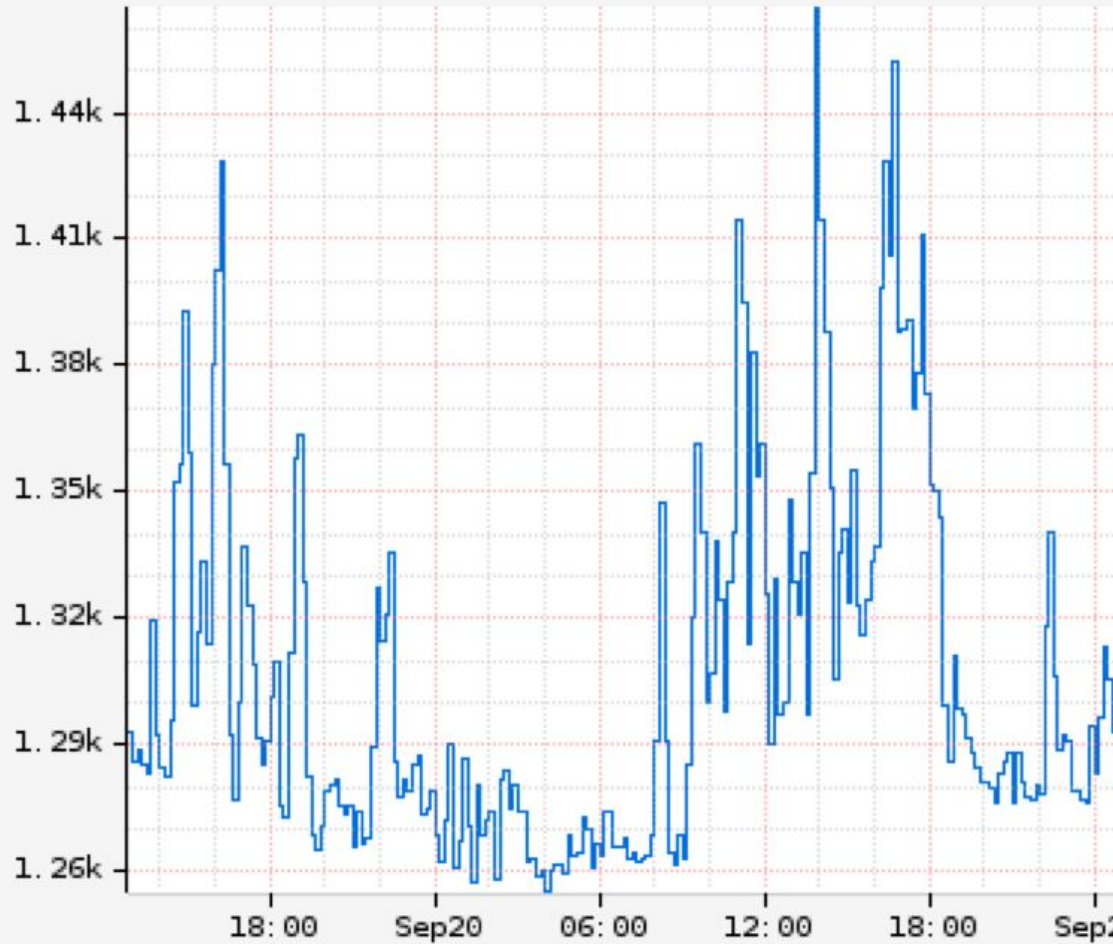us-west-2
eu-west-1

Time to Live (TTL)

Until I leave ▾

⬤ Persist in Elastic Search

"OR" all

Autoscaling

Almost 1,500
active jobs at
peak

What does this all mean?

Faster detection

Faster insights into causes

Faster mitigation

Happier customers!

Contact

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