Making and keeping Netflix highly available
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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 Microservices 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

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

**Anomaly Detection**
Core architectural components

- AWS EC2
- Apache Mesos
- Mantis Framework
- Fenzo

Fenzo Scheduler
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

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
<table>
<thead>
<tr>
<th>Source</th>
<th>APIRequestSource</th>
</tr>
</thead>
</table>

**Select fields in event | Select All**
- path ✗
- esn ✗
- method ✗
- duration ✗
- response.header.X-Netflix.dependency-command.executions ✗
- status ✗

**Conditions**
- **duration** ➔ **==** ➔ **number** ✗
- **response.header** ➔ **==** ➔ **string** ✗
- **status** ➔ **==** ➔ **number** ✗
- **path** ➔ **==** ➔ **string** ✗

**Environment**
- **test**
- **pred**

**Region(s)**
- us-east-1
- us-west-2
- eu-west-1

**Time to Live (TTL)**
- Until I leave

**Persist in Elastic Search**
- ✗
Autoscaling

Almost 1,500 active jobs at peak
What does this all mean?

Faster detection

Faster mitigation

Faster insights into causes

Happier customers!
Contact

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