Alert on all the things

Integrating Quicksilver with Prometheus

Lorenz Bauer (lmb@cloudflare.com), 2017-08-18, PromCon 2017

Cloudflare

- Web performance / security as a Service
- Global CDN
  - 4.8m HTTP req/s avg
  - 1.2m DNS queries/s avg
- blog.cloudflare.com

CLOUDFLARE

Quicksilver

- Transfers customer configuration from central location to the "Edge"
- "Replicated" database
- Runs on a few thousand machines
- Team: Geoffrey Plouviez, Sami Kerola, me

CLOUDFLARE®
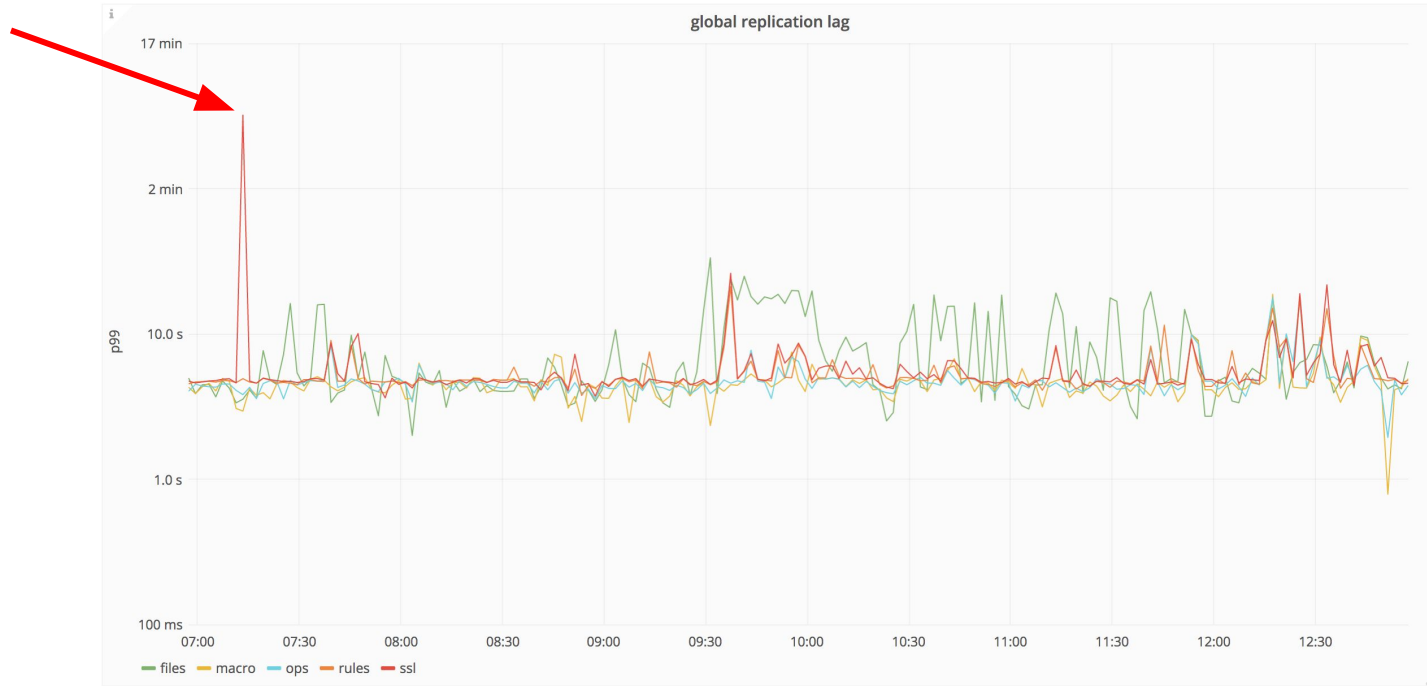
Quicksilver

Replication lag

Replication lag

global replication lag

files   macro   ops   rules   ssl

In reality, we lack information

Network lag

450ms

150ms
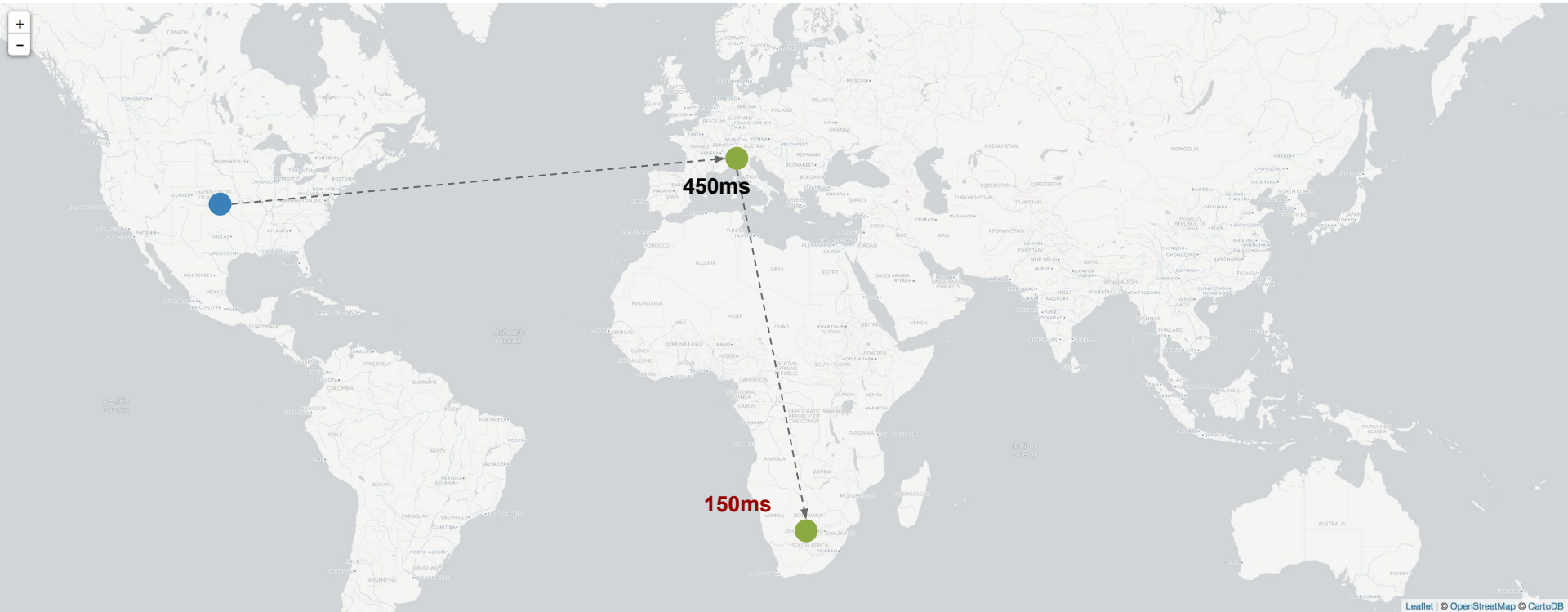
Network lag
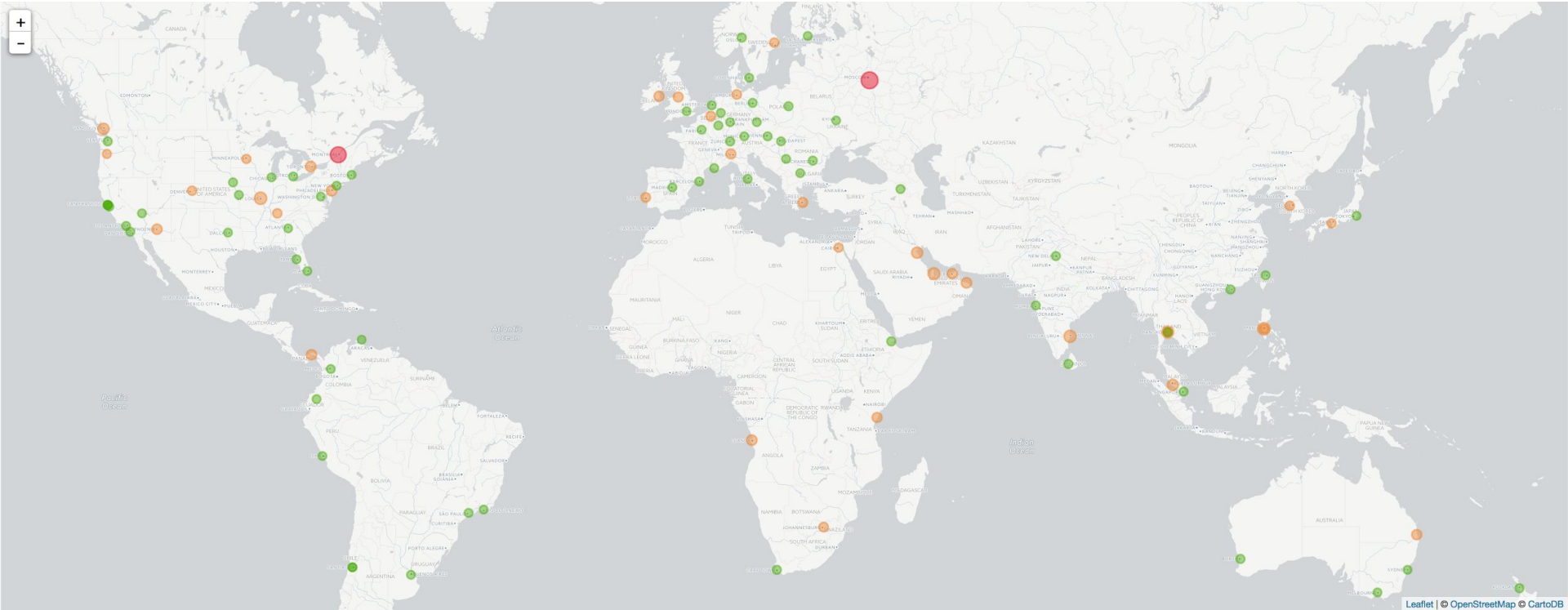
#1 Alert cascade

- An alert close to the root triggers alerts in children
- → Inhibition

CLOUDFLARE

#2 Inhibition oh my

Alertmanager inhibition rule:

```
- target_match:
    alertname: No_Heartbeat_Received
  source_match_re:
    alertname: .+
```

Alert inhibits itself

#2 Inhibition oh my

Alerts can inhibit themselves #666

Edit **New issue**

⊘ **Open**   **lmb** opened this issue on Mar 23 · 9 comments

lmb commented on Mar 23 • edited   ➕😊 ✏️

I have a bunch of alerts in the form of Prefix_Some_Name. I've set up the following inhibition rule:
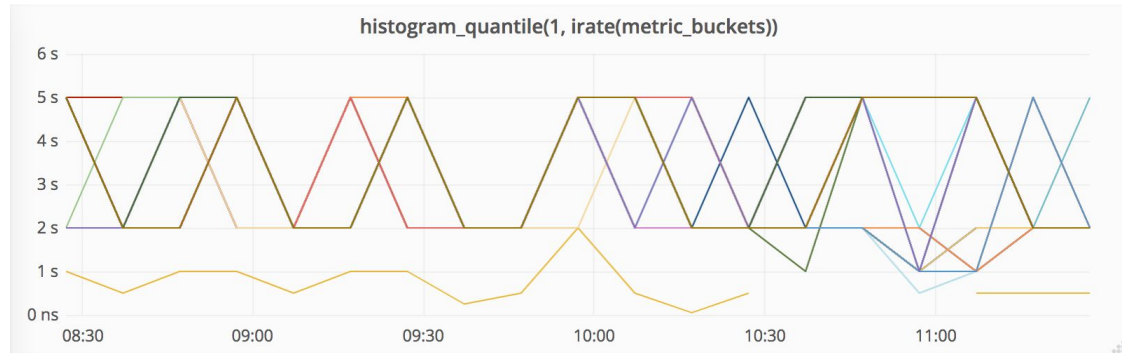
Assignees

🔲 lmb

Labels

CLOUDFLARE
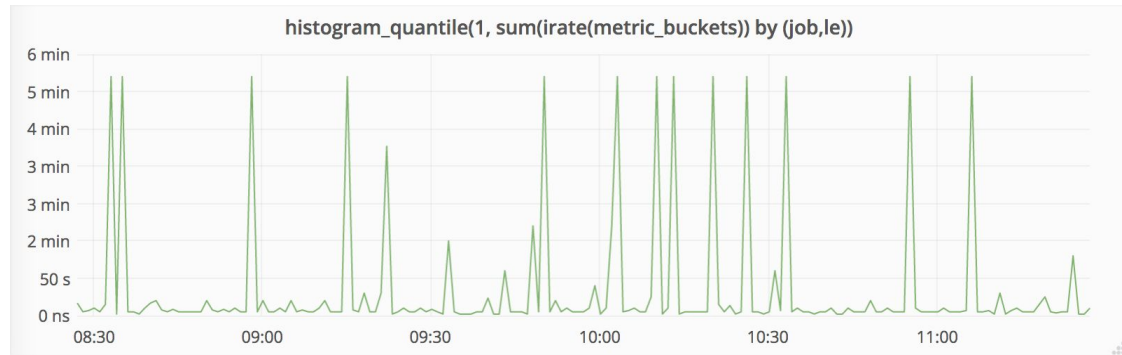
#2 Inhibition oh my

- Sharp edges included
- Consequence of implementation, not design (?)

#3 Aggregated histograms are buggy

Per machine
Max sample <= 5s

Aggregated
Max sample <= ?!

#3 Aggregated histograms are buggy

- Much improved by [Jack Neely's PR](#)
- Fixed in 2.0 (?)
- More problems to come?

CLOUDFLARE

#4 Federation + HA: not a dream team

- End up with multiple scrapes per job at any point in time
- Deduplication has to happen in queries
- How? Depends on your metric

#4 Federation + HA: deduplicating histograms

```
histogram_quantile(0.99,
    sum by(label, le) (
        max without(common1,common2) (irate(bucket[3m]))
    )
)
```

- Aggregate per label, le
- Choose a single scrape (min works too)

CLOUDFLARE

#5 SD + up: to be or to be absent

- Scenario
  - Service running in Marathon
  - Service discovery used to find targets

```
sum(up{job="something"}) by (job) < 1
    or absent(up{job="something"})
```

In summary

- Prometheus is great!1!!!
- Inhibition needs love
- Querying federated HA requires extra care