Goutham Veeramachaneni

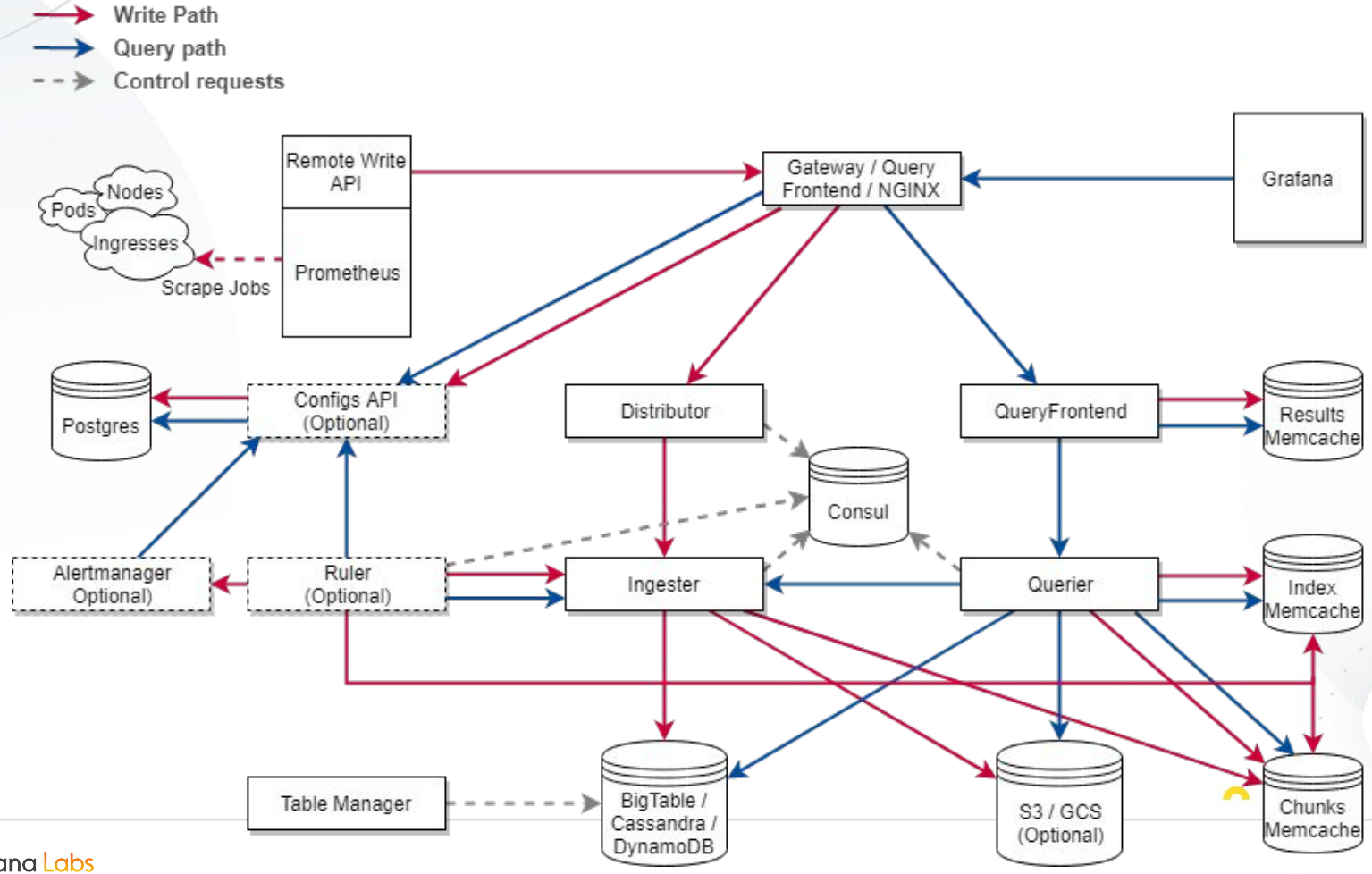
@putadent

Grafana Labs

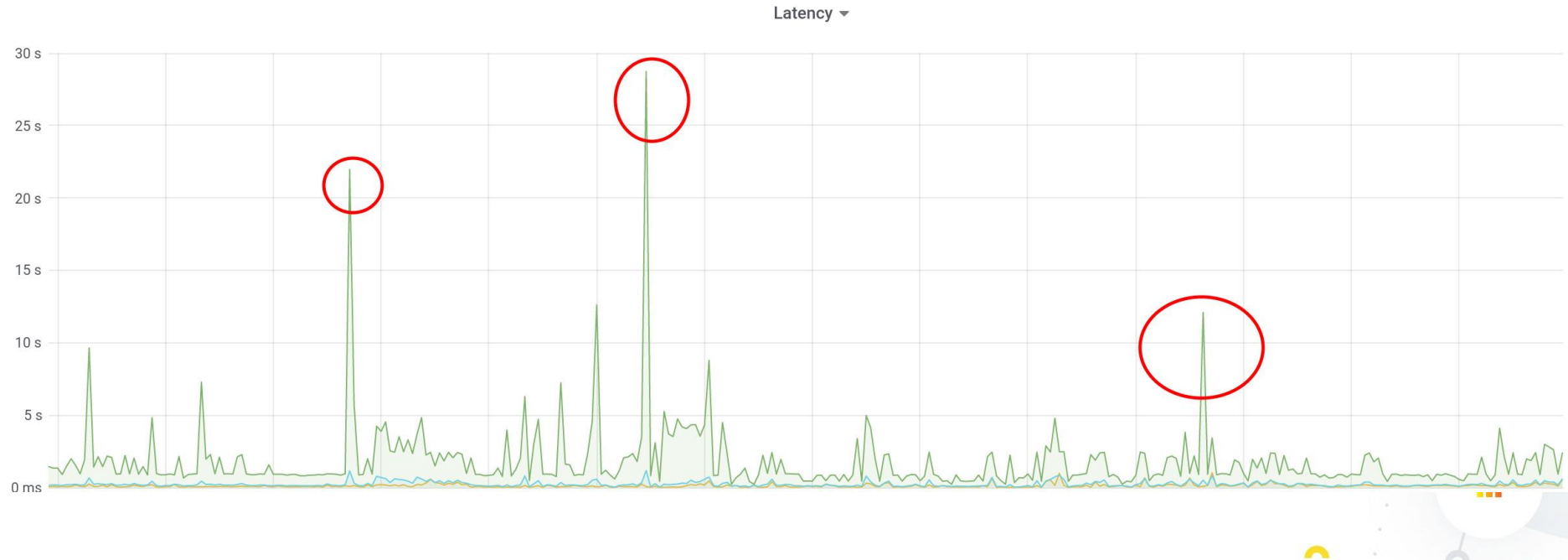
Me

Context

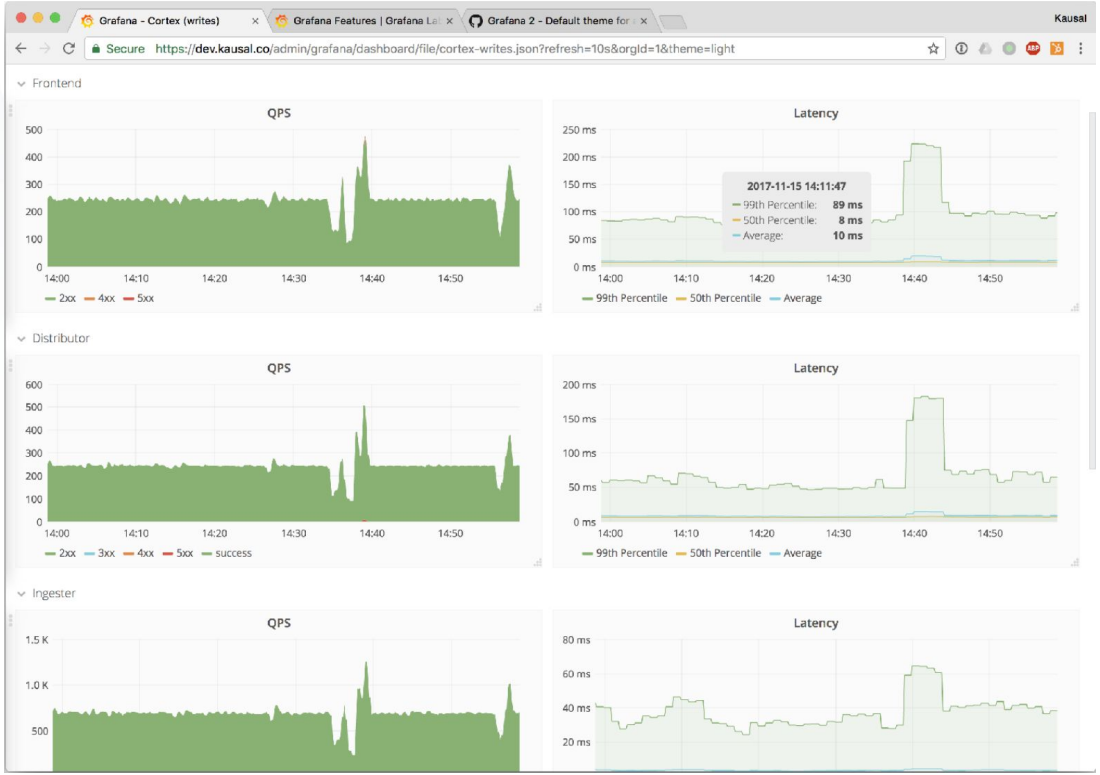
Debugging slow queries


Write Path
Query path
Control requests
Remote Write API
Prometheus
Nodes
Pods
Ingresses
Scrape Jobs
Gateway / Query Frontend / NGINX
Grafana
Postgres
Configs API (Optional)
Distributor
QueryFrontend
Results Memcache
Consul
Alertmanager Optional)
Ruler (Optional)
Ingester
Querier
Index Memcache
Table Manager
BigTable / Cassandra / DynamoDB
S3 / GCS (Optional)
Chunks Memcache

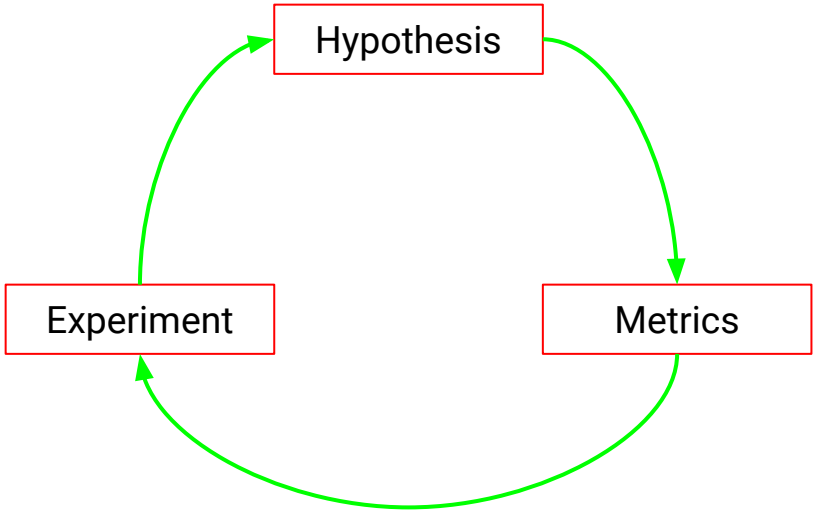
A few large queries are slow



RED Method


Grafana - Cortex (writes)
Grafana Features | Grafana La
Grafana 2 - Default theme for
Kausal
Secure https://dev.kausal.co/admin/grafana/dashboard/file/cortex-writes.json?refresh=10s&orgId=1&theme=light
Frontend
QPS
500
400
300
200
100
0
14:00
14:10
14:20
14:30
14:40
14:50
2xx 4xx 5xx
Latency
250 ms
200 ms
150 ms
100 ms
50 ms
0 ms
2017-11-15 14:11:47
99th Percentile: 89 ms
50th Percentile: 8 ms
Average: 10 ms
99th Percentile 50th Percentile Average
Distributor
QPS
600
500
400
300
200
100
0
2xx 3xx 4xx 5xx success
Latency
200 ms
150 ms
100 ms
50 ms
0 ms
99th Percentile 50th Percentile Average
Ingester
QPS
1.5 K
1.0 K
500
Latency
80 ms
60 ms
40 ms
20 ms

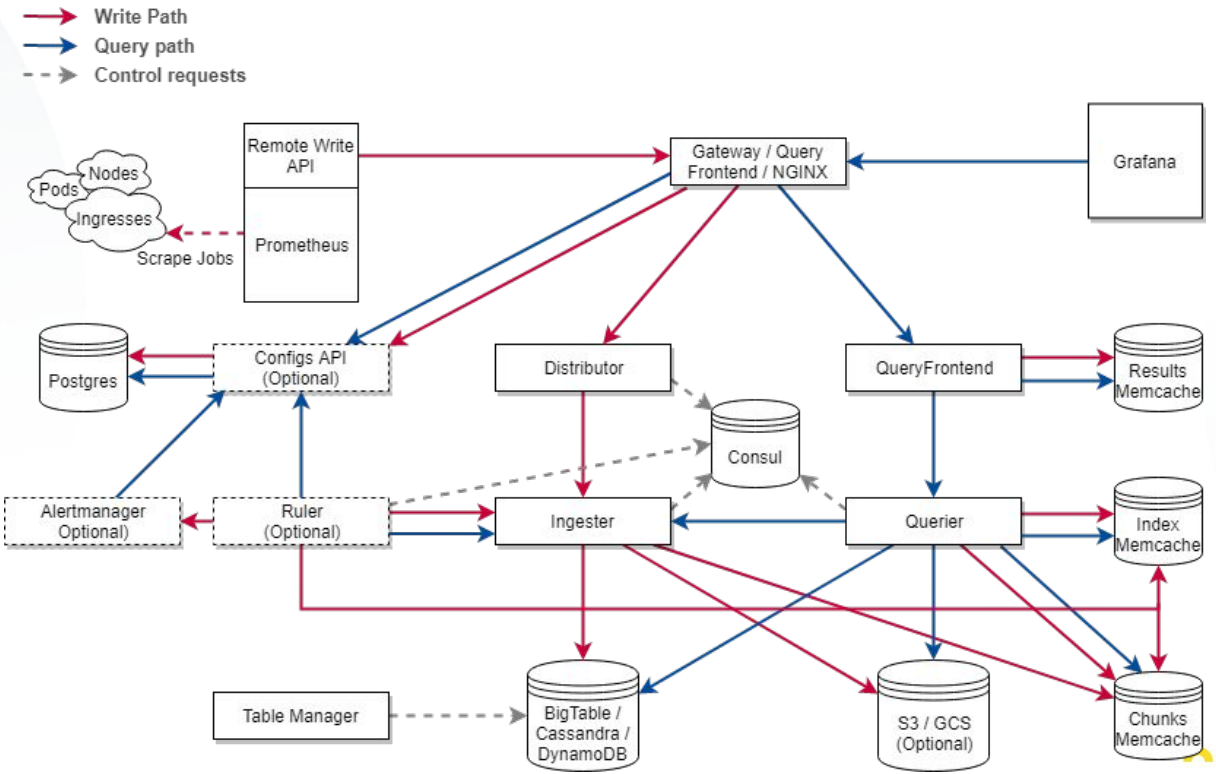
Soooo whats slow?



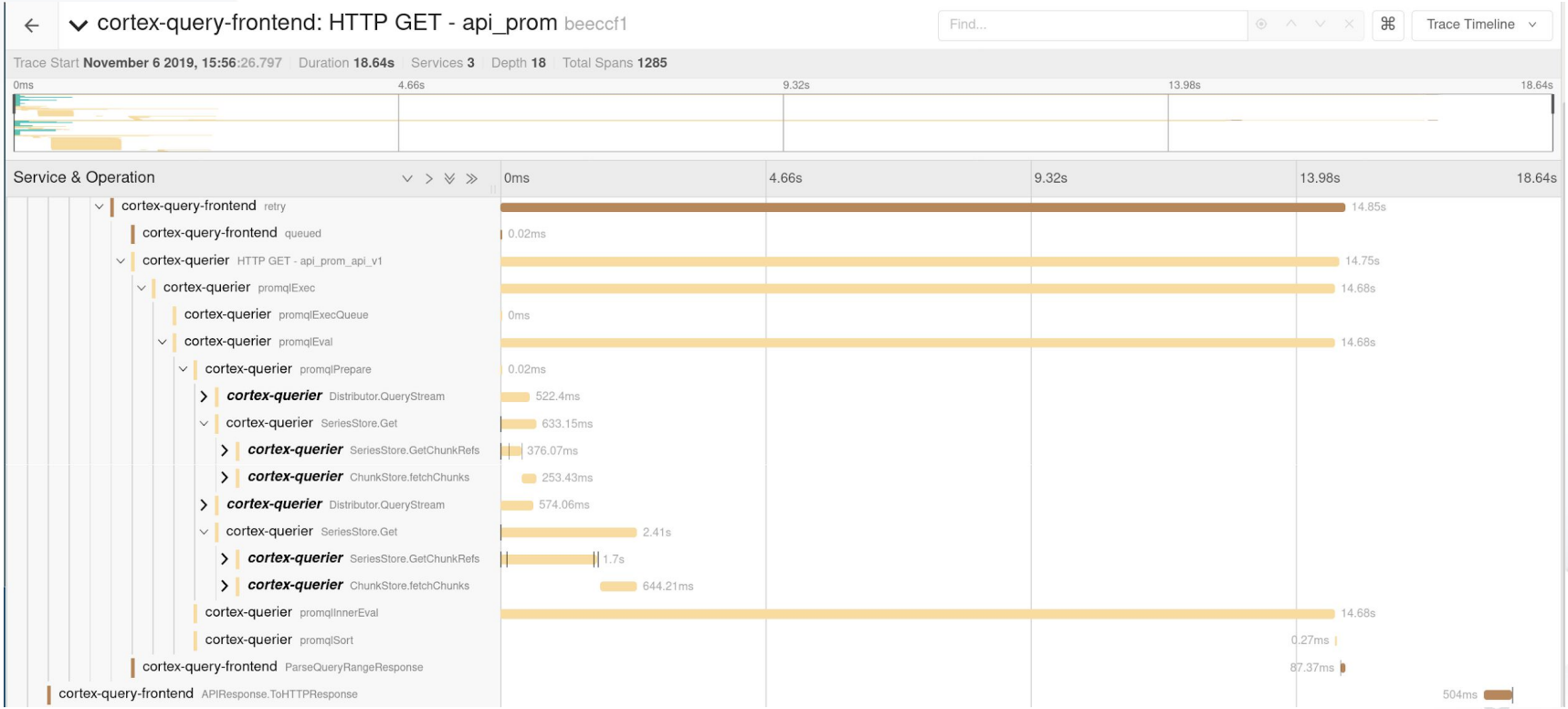
Jaeger

Saving my arse since June 2018

Soooo whats slow?

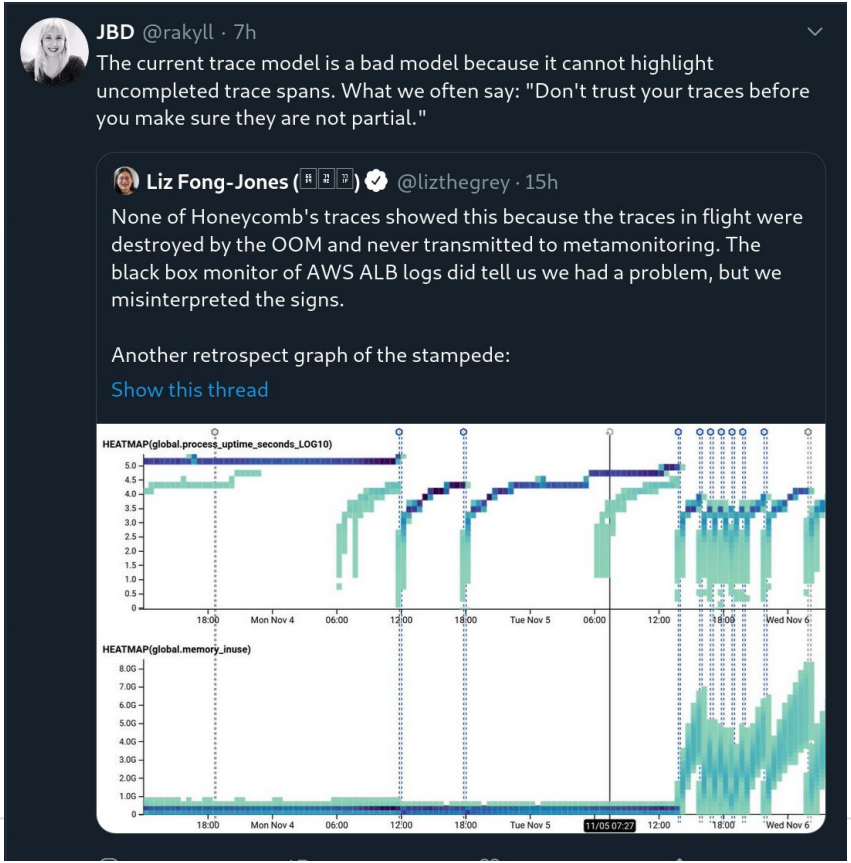


Soooo whats slow?

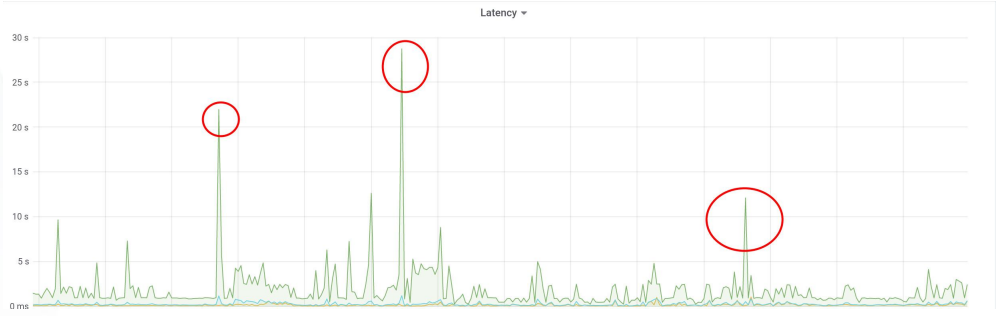


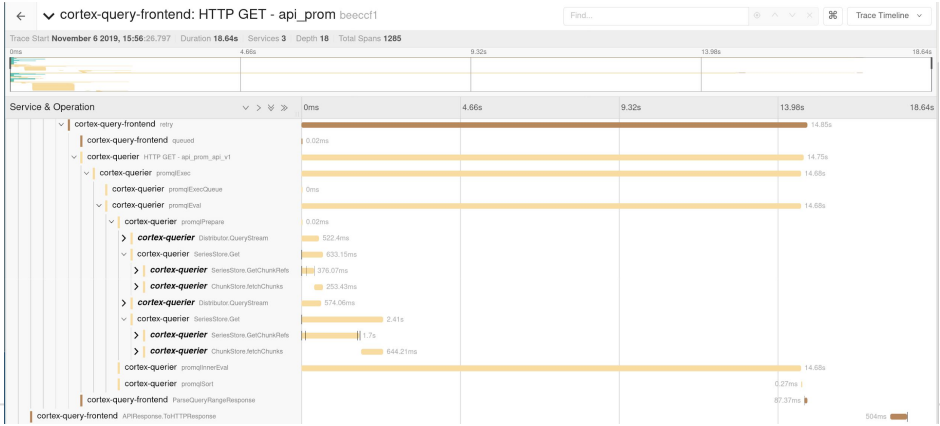
Demo

Is Jaeger the solution to everything?



My new flow


Latency
30 s
25 s
20 s
15 s
10 s
5 s
0 ms


cortex-query-frontend: HTTP GET - api_prom beeccf1
Trace Timeline
Service & Operation
0ms
4.66s
9.32s
13.98s
18.64s
cortex-query-frontend
cortex-querier
cortex-querier
cortex-querier
cortex-querier
cortex-querier
cortex-querier
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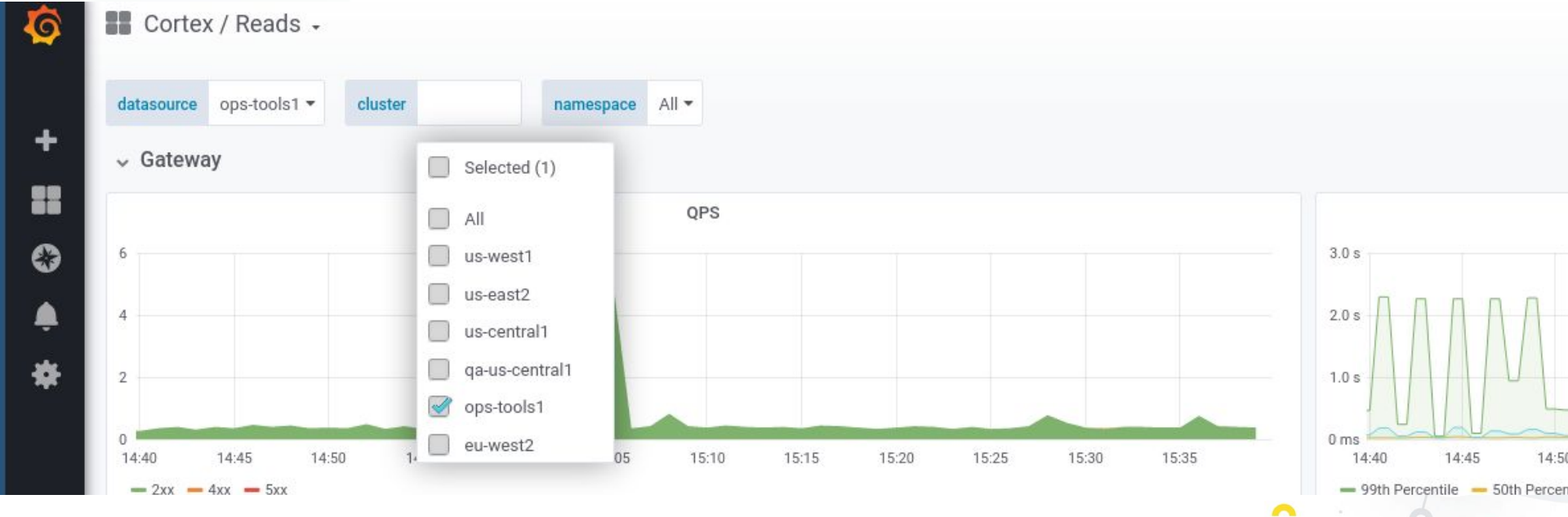
cortex-querier
cortex-querier
cortex-querier
cortex-querier
cortex-query-frontend
cortex-query-frontend

Per environment traces?

- Several clusters but central jaeger



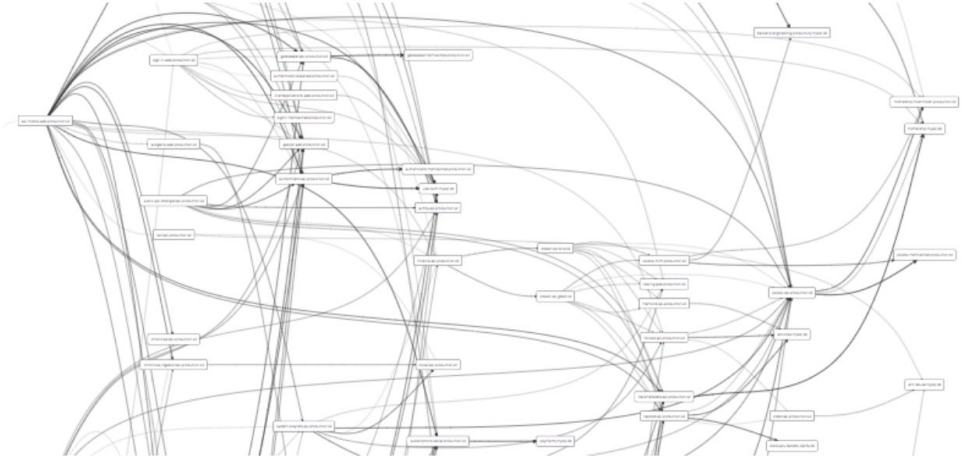
Enriching traces

- blog

Backstage Blog September 18th, 2018 Engineering Microservices

Using Kubernetes Pod Metadata to Improve Zipkin Traces

By Steve Conover



SoundCloud is built on hundreds of microservices. This creates many challenges, among them debugging latency issues across the services engaged in the completion

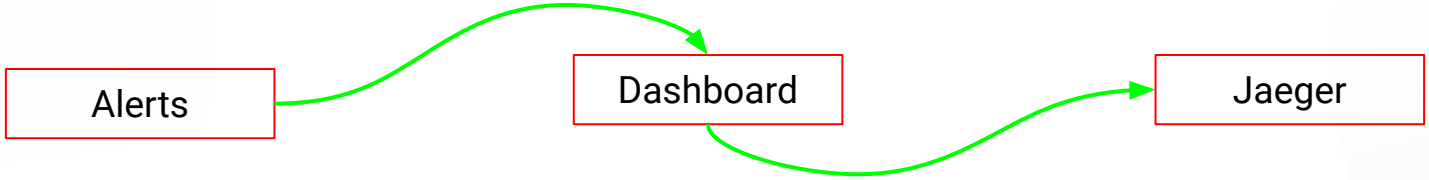
Enriching traces

- Just add namespace and clustername, use env vars

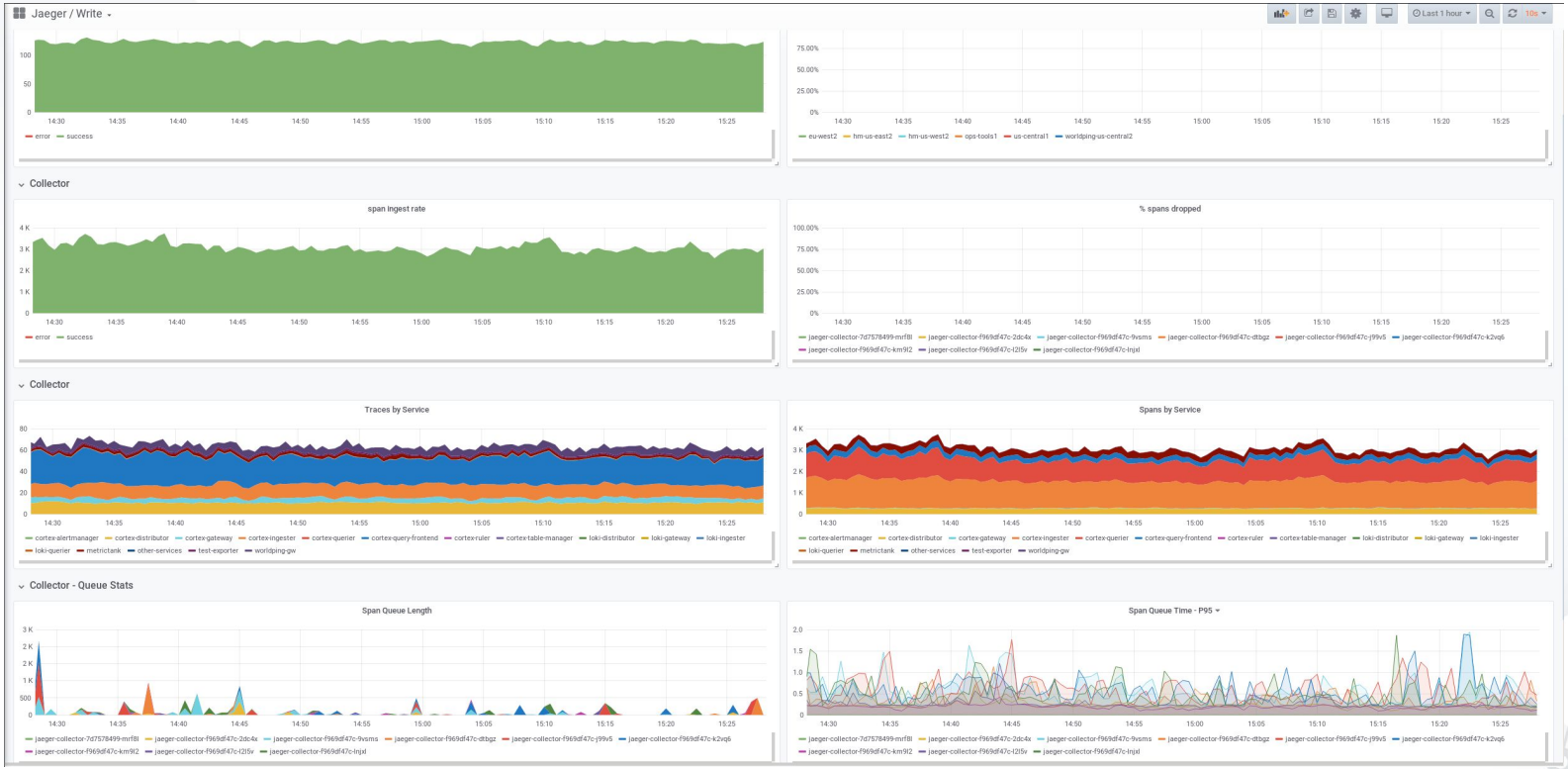
```
jaeger_mixin::
     if $._config.jaeger_agent_host == null
     then {}
     else
     container.withEnvMixin([
     container.envType.new('JAEGER_AGENT_HOST', $._config.jaeger_agent_host),
     container.envType.new('JAEGER_TAGS', 'namespace=%s,cluster=%s' % [$._config.namespace,
$._config.cluster]),
     container.envType.new('JAEGER_SAMPLER_MANAGER_HOST_PORT', 'http://%s:5778/sampling' %
$._config.jaeger_agent_host),
     ]),
```

Per environment traces?

- Several clusters but central jaeger



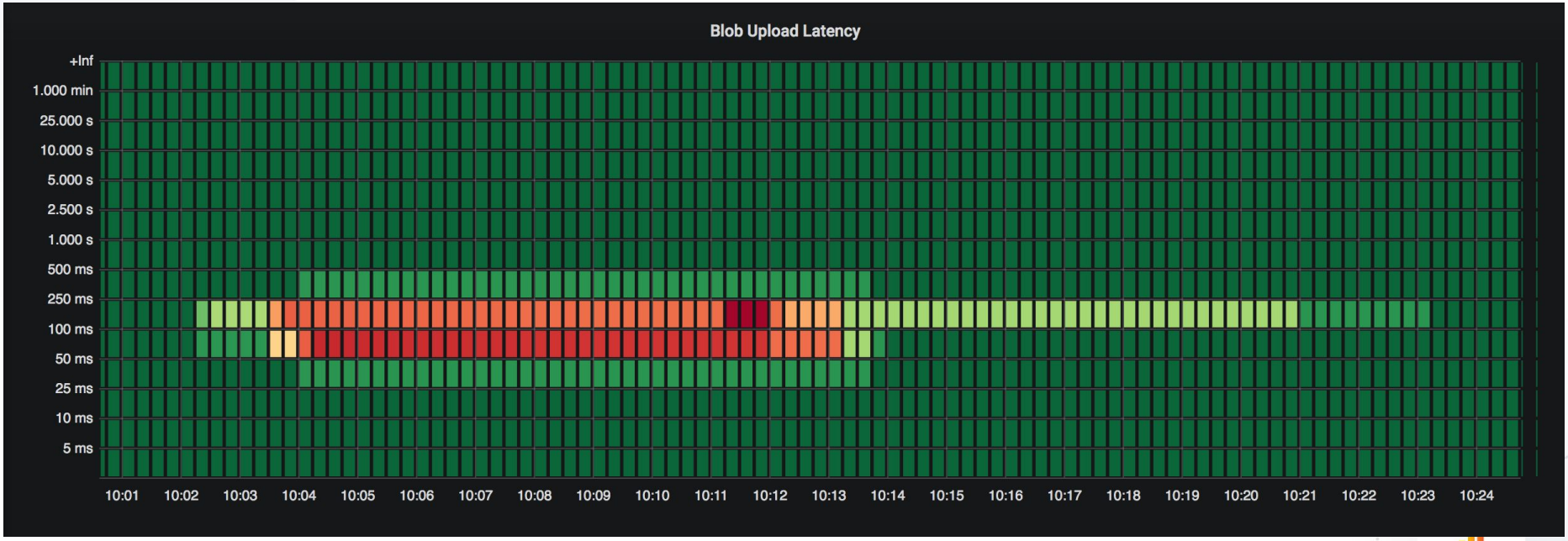
Monitoring Jaeger with Prometheus



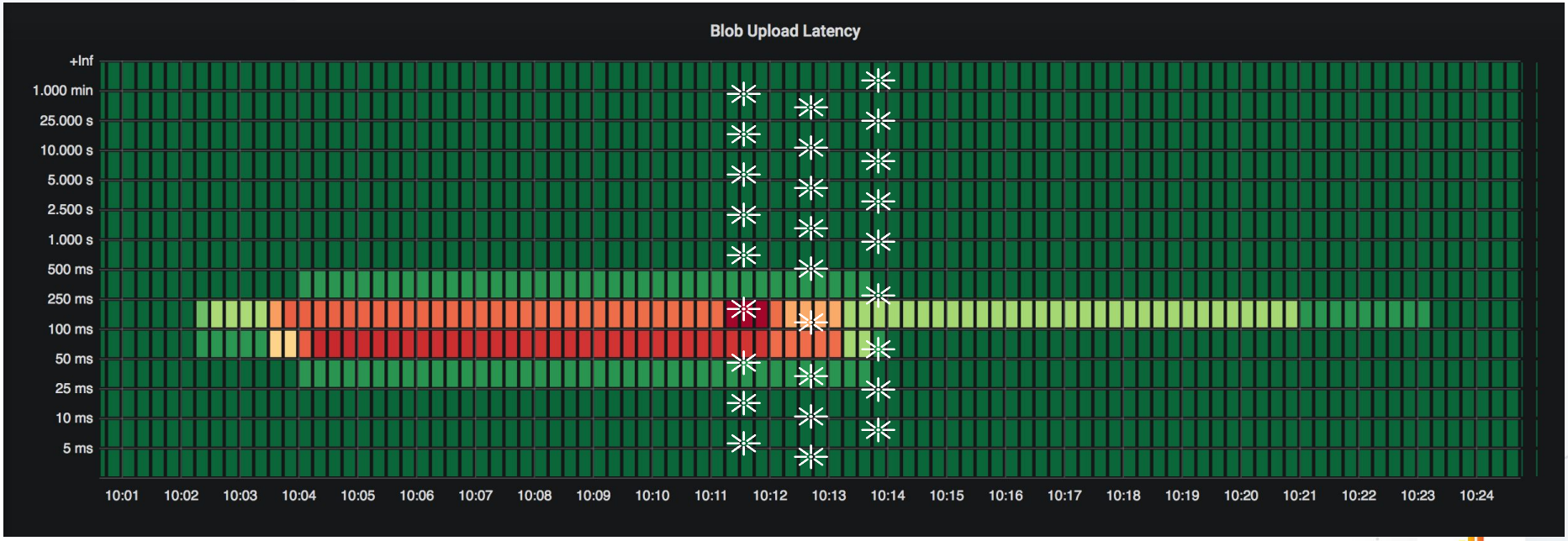
The Future

We’re only scratching the surface

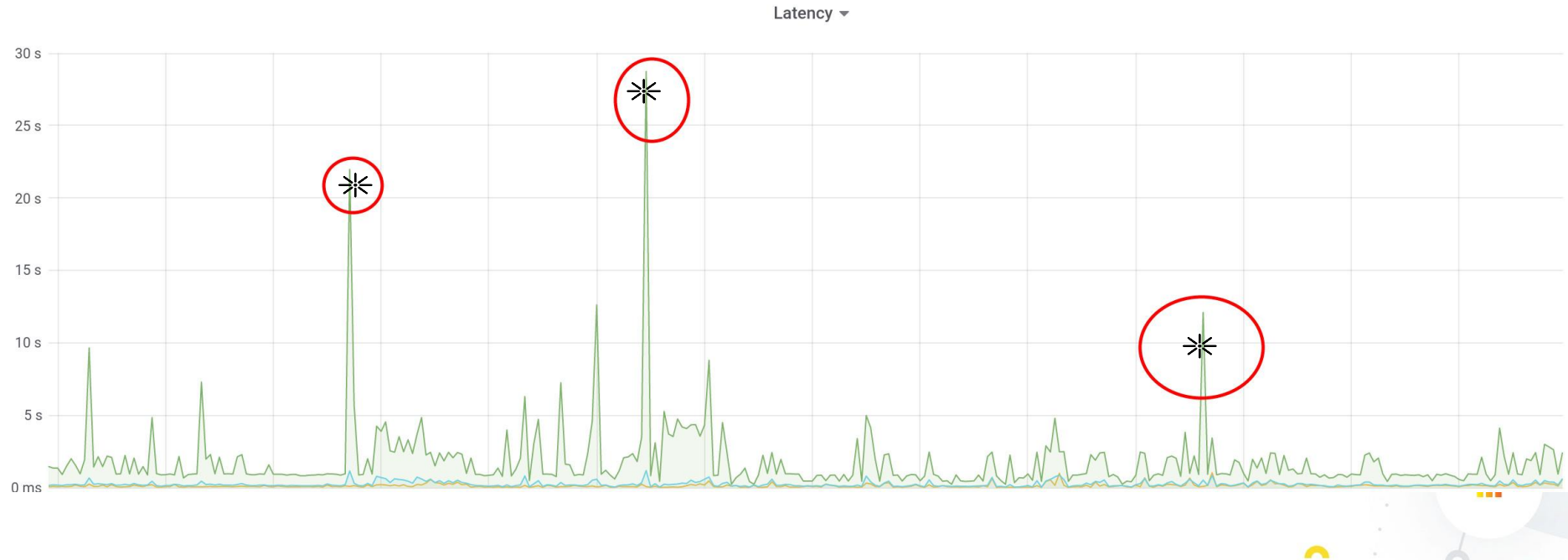
Exemplars: Seamless flow



Exemplars: Seamless flow



Exemplars: Seamless flow



More future

- Grafana has tracing built in (Jaeger being first)
- Integrate the logs and traces and metrics
- Built in UI for visualising Prometheus queries
- Conprof

Recap

Recap

- Jaeger is awesome for debugging latency
- Alerts —> Dashboard —> Jaeger, make sure the flow works
- The jaeger_mixin helps you tame Jaeger
- Exemplars are coming!

Questions!

@putadent