Metrictank: Building a new time series engine for GrafanaCloud
PERCONA LIVE 2018

Raj Dutt / co-founder Grafana Labs
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Grafana everywhere
The Rise of Grafana
Beautiful metric & analytic dashboards

Grafana is the leading analytics software for time series data

> 150,000 teams actively using Grafana, and growing

Active and Engaged Global Community. 600+ Developers

Significant Enterprise Penetration in the last year

How do we make this a sustainable project?

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How to monetize?

GrafanaCloud

A complete Grafana stack. As a service.

But what metrics backend?
Grafana is the Switzerland of TSDBs.

So why build our own? Why not just use one?
BUT we also needed to meet GrafanaCloud requirements

**Extremely efficient and reliable**
- Low resource utilization, margin is important!
- High availability
- Graphite/whisper

**No commercial dependencies**
- Margin, again. Control of our destiny
- InfluxDB

**Reasonable scaling and maintenance requirement**
- Low burden on SRE team.
- Many

**Suitable for SaaS deployment and non “cloud native” use cases.**
- Prometheus
The Facebook Gorilla Paper... super interesting

interesting bed time reading material

Dieter Plaetinck <dieter@raintank.io> 9/14/15

to all-staff

looks like FB just released a paper describing their in house, in-mem, highly compressed data store. They also compare it to whisper, influxdb and opentsdb.

https://twitter.com/armon/status/642803583050604549

Torkel Ödegård <torkel@raintank.io> 9/14/15

to Dieter

nice! bed time reading is always good to have :)

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Dieter embarks on a crazy experiment - metrictank

Dieter Plaetinck
PRINCIPAL ENGINEER
Integrate and interoperate.
Not replace.
No forklift upgrade for users.
What if we could overcome these limitations?

**Prometheus**
- by Grafana Labs
- Prometheus Data Source for Grafana

**Graphite**
- by Grafana Labs
- Graphite Data Source for Grafana

**COMPATIBLE WITH BOTH**
- Be long term storage
- Be the centralized HA store
- Remote write support
- PromQL support
- Participate in the community
- Add tags (dimensionality)
- Add different roll-ups
- Graphite-API support
- Shepherd the community
So what exactly does metrictank do?

Read from your choice of inputs:
  Kafka, Carbon, Prometheus, OpenTSDB, Datadog

Compress and save to your choice of backend:
  Cassandra/ScyllaDB or Google BigTable

Performs roll-ups

Caches hot data, serves queries
  Graphite function API
  PromQL
Conclusion

We didn’t build a TSDB per se. More a purpose built engine.

Use whatever makes sense. Interoperability is great.
That’s why Grafana supports Graphite, Prometheus, Timescale, ClickHouse, InfluxDB
That’s why metrictank supports Cassandra, Bigtable, Graphite, Prometheus

Check out metrictank OSS http://www.github.com/grafana/metrictank
But get ready to roll up your sleeves

We now have a monetization strategy for the Grafana project
Good initial uptake.
Check out GrafanaCloud http://www.grafana.com/cloud
THANK YOU