



Prometheus experience report

Steffan Lund & Mike Rostermund

What do our little corner of Schneider Electric do?



EcoStruxure™ IT

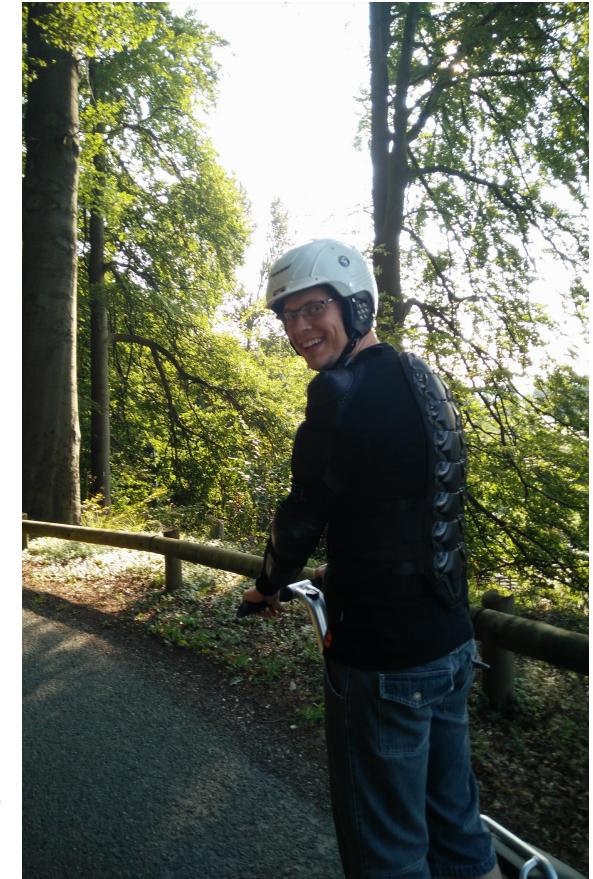
Schneider Electric provides everything for the data center and distributed IT space so we understand the software you need to succeed!

Who are we?



Steffan Lund
DevOps Engineer
Steffan.Lund@se.com

Mike Rostermund
DevOps Engineer
Mike.Rostermund@se.com



So why Prometheus?

Before:

Sensu was used as a push setup. Looked like Nagios.

Alerts & metrics was previously two separate things.

Manual rollout of new alert checks.



After:

Built in service discovery. Alerts built on metrics.

PromQL is easy and flexible to work with (rate, sum, avg).

Community had good traction (summer 2017).

How do we use Prometheus

Prometheus WebUI (ad-hoc query)

Grafana (dashboards)

PagerDuty & Slack

Deployment blocked on active alerts

 AlertManager APP 13:51

ES cluster health degraded: logdb

Description: logdb: ES cluster health degraded (current state is: yellow)

Graph:  Docs: 

Details:

- alertname: [ESClusterHealthDegraded](#)
- cluster: [logdb](#)

[Show more](#)

13:56

ES cluster health degraded: logdb

Description: logdb: ES cluster health degraded (current state is: yellow)

Graph:  Docs: 

Details:

- alertname: [ESClusterHealthDegraded](#)
- cluster: [logdb](#)

[Show more](#)

 jenkins APP 08:30

Deployment must be manually triggered (653 kB) ▾

Job Name: Auto_Deploy_prod
Build Name: japan idol
Build no.: 556
Branch/Git Commit Id: fc1ac6e8b99



Scrape interval importance

1. Get all possible metrics. 30 secs scrape interval.
2. Scale issues. 60 secs scrape interval.
3. Scale issues, again. 10 secs scrape interval.

<https://www.robustperception.io/which-are-my-biggest-metrics>



Numbers & numbers & numbers

Key metrics per Prometheus instance

Non-production:

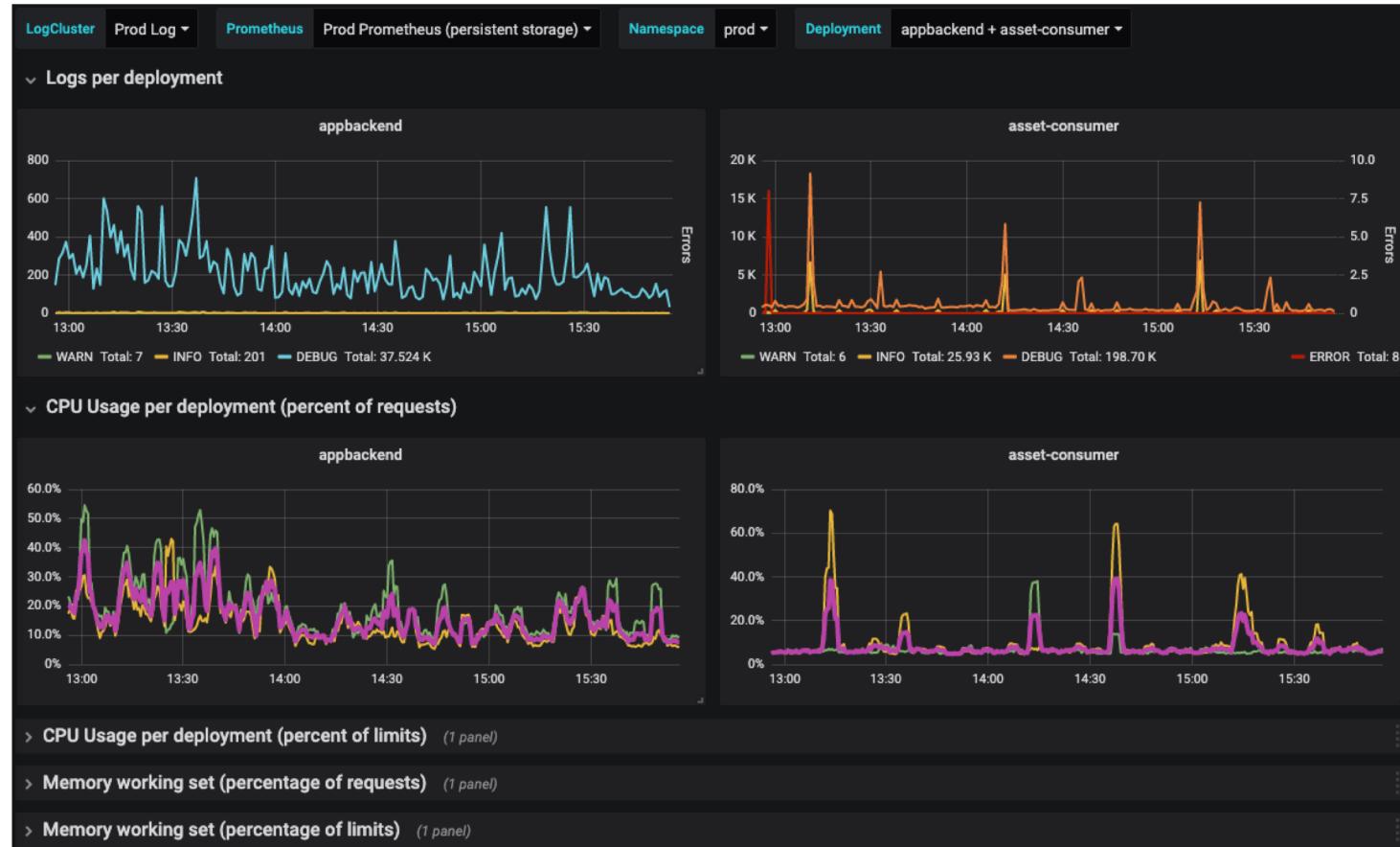
- 2 instances per Kubernetes cluster
- Samples per second: ~75k
- Time series: ~800k
- Memory: 6GB
- CPU: 1.3-1.4 cores
- Retention: 2 weeks
- Storage: ~138GB disk
- # scrape targets: 538

Production:

- 2 instances per Kubernetes cluster
- Samples per second: ~50k
- Time series: ~500k
- Memory: 4GB
- CPU: 0.8-0.9 cores
- Retention: 2 weeks
- Storage: ~90GB disk
- # scrape targets: 286

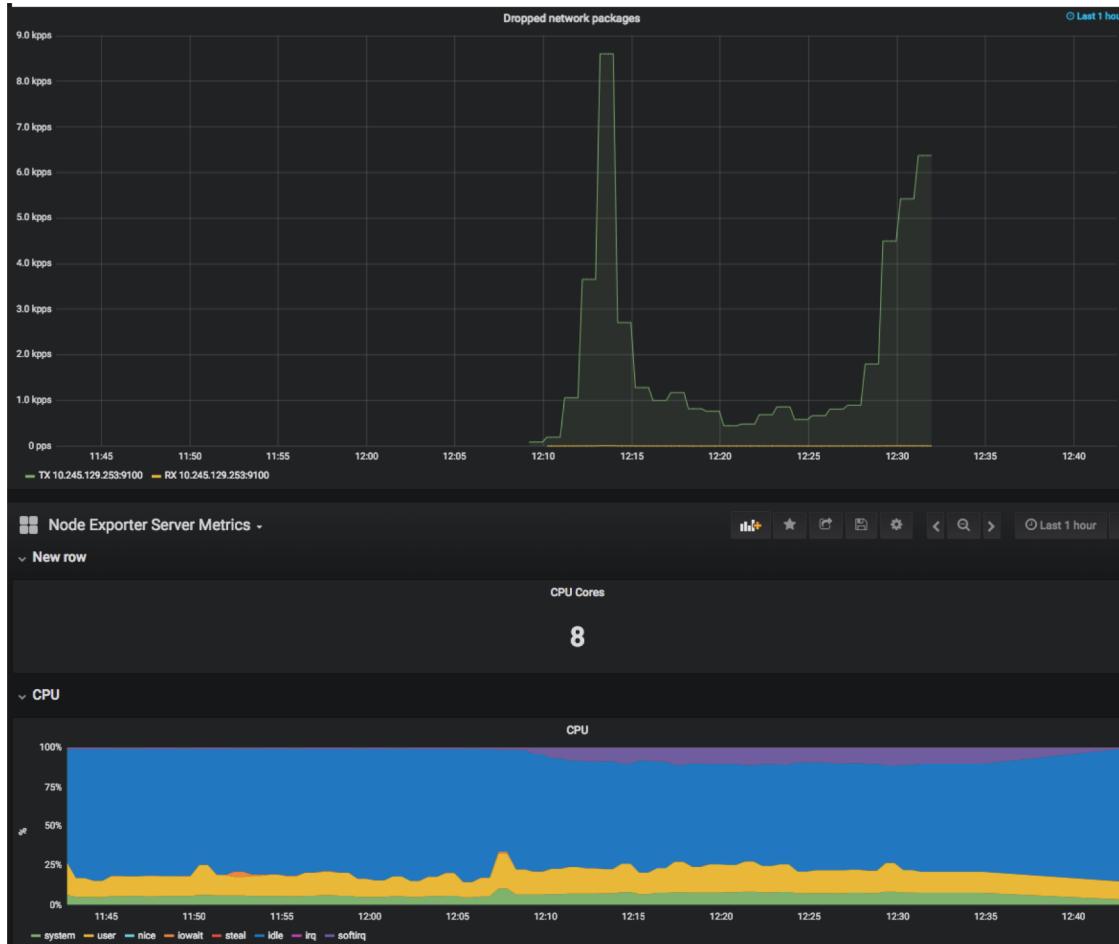
Dashboards

Kubernetes deployment stats



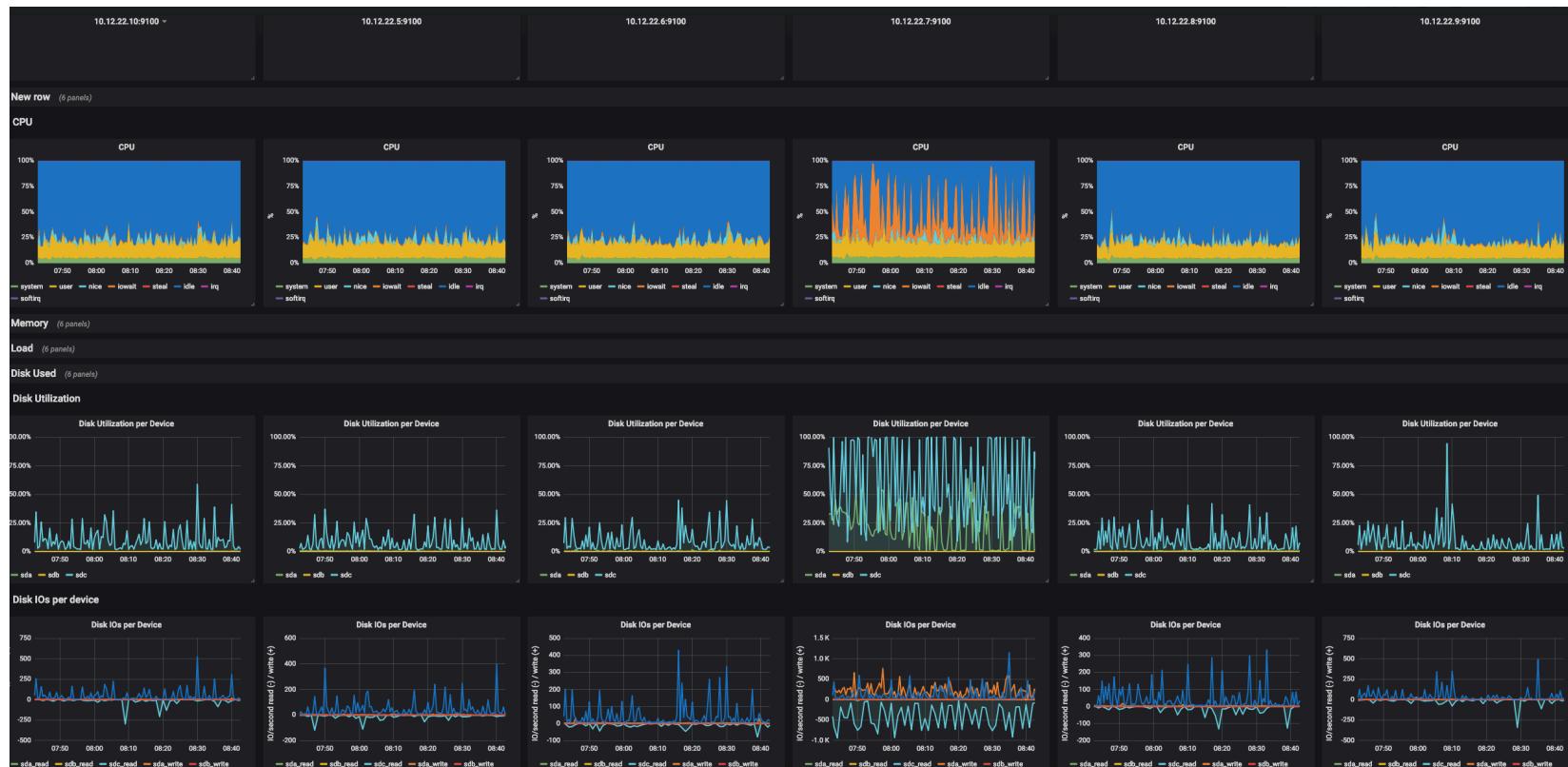
Dashboards

Early Azure-CNI



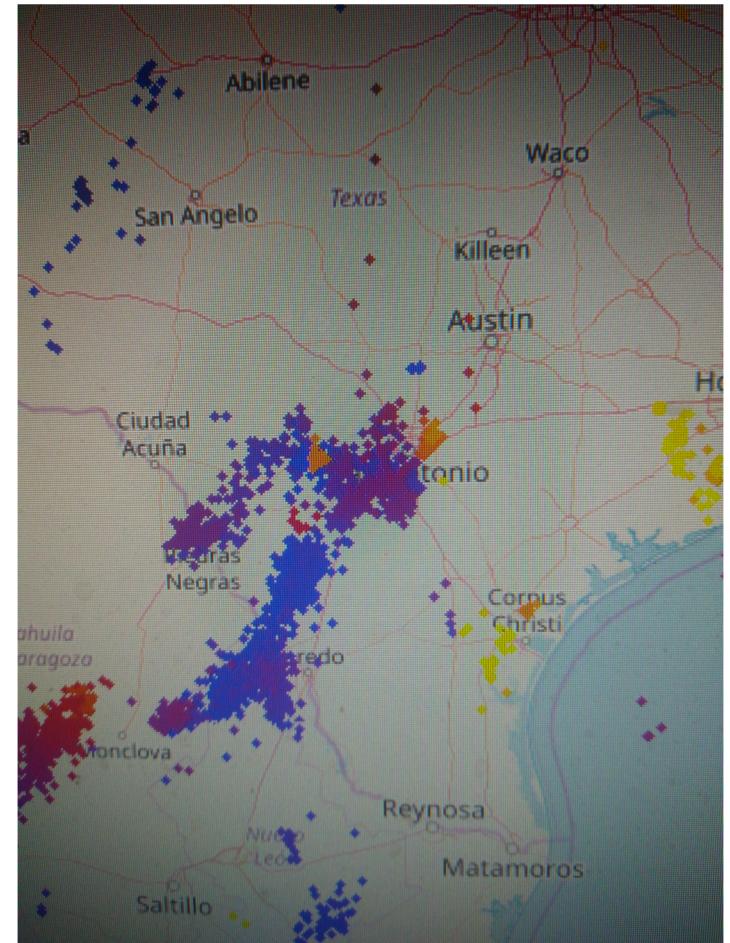
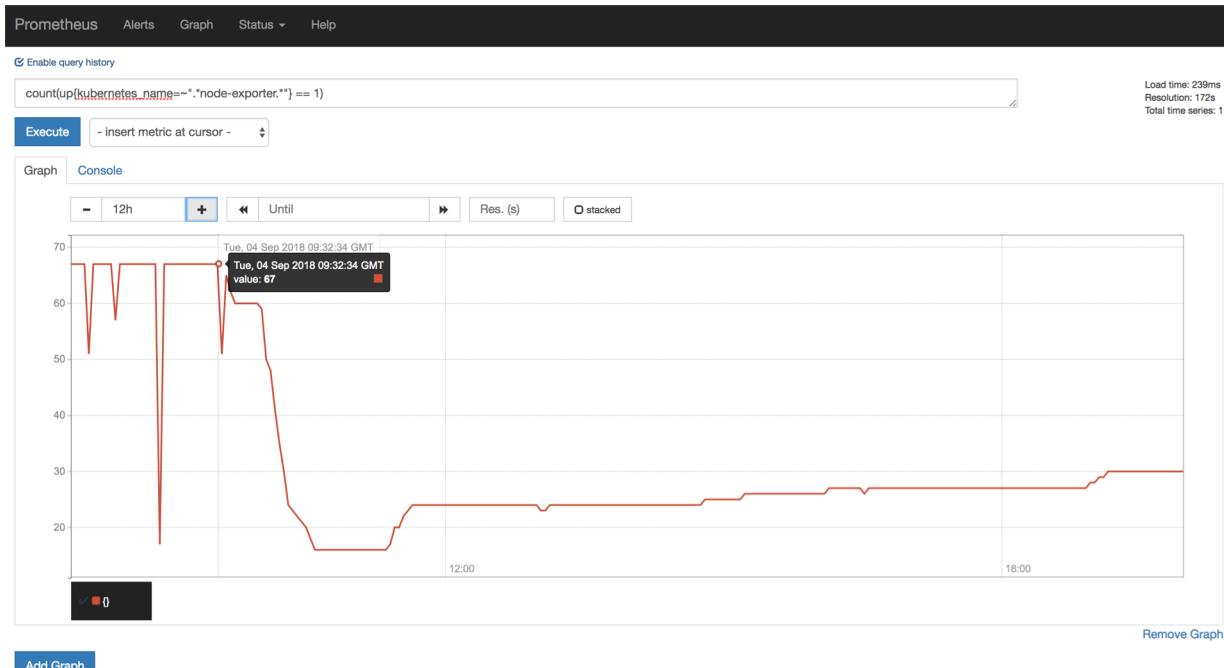
Dashboards

Node Exporter Server Metrics



Dashboards

Lightning strike

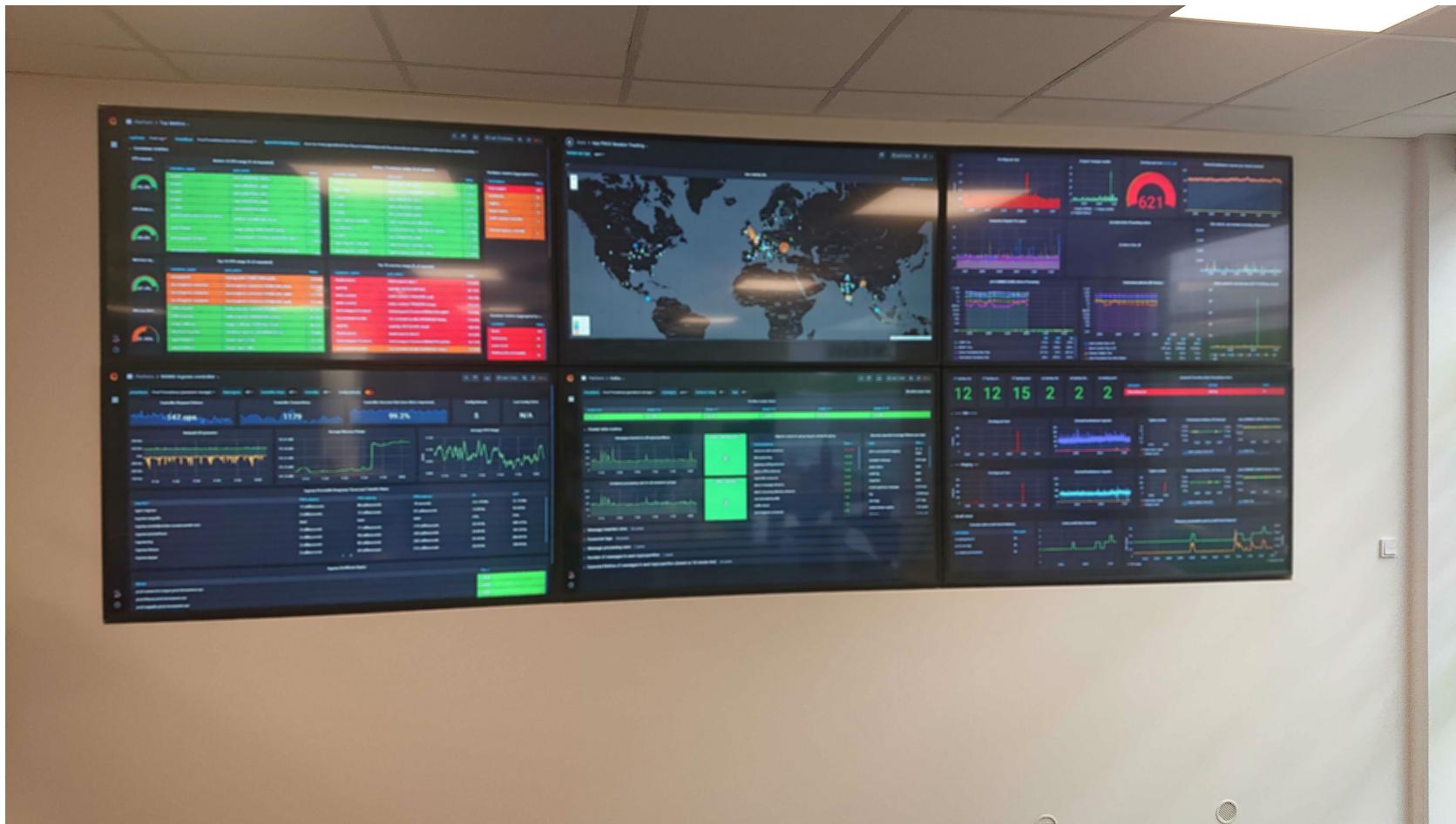


Horizontal Pod Autoscaler

Kafka lag



Dashboard wall



References

<https://www.robustperception.io/blog>

https://github.com/danielqsj/kafka_exporter

<https://github.com/kubernetes/kube-state-metrics>

https://github.com/prometheus/jmx_exporter

https://github.com/prometheus/node_exporter

<https://github.com/zalando-incubator/kube-metrics-adapter>

Life Is On

