



Monitoring Microservices the Right Way

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Dotan Horovits
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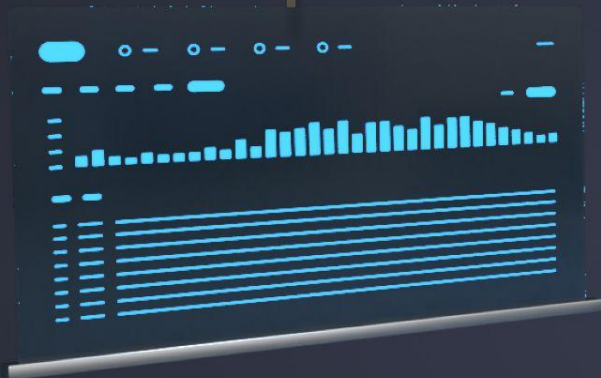
- Developer Advocate at Logz.io
- 20 years in the hi-tech industry
- Developer, architect, product
- CNCF advocate, meetup organizer
- Podcast: OpenObservability Talks



Cloud-Native Observability



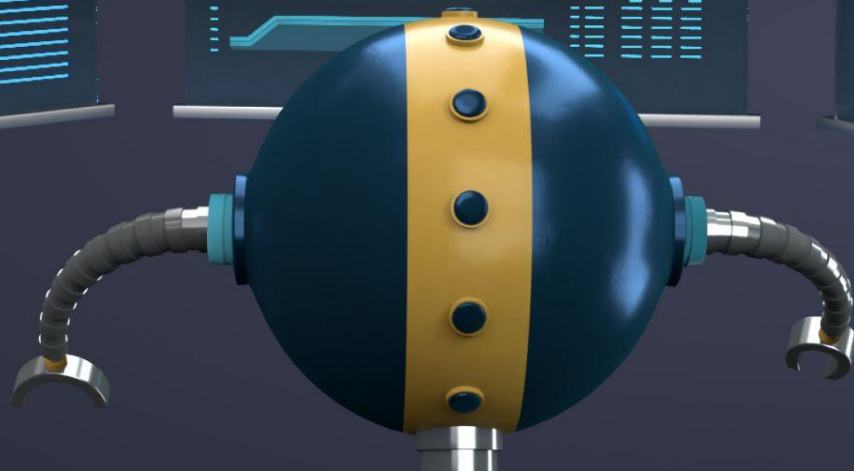
Logs



Metrics



Tracing





Once upon a time...

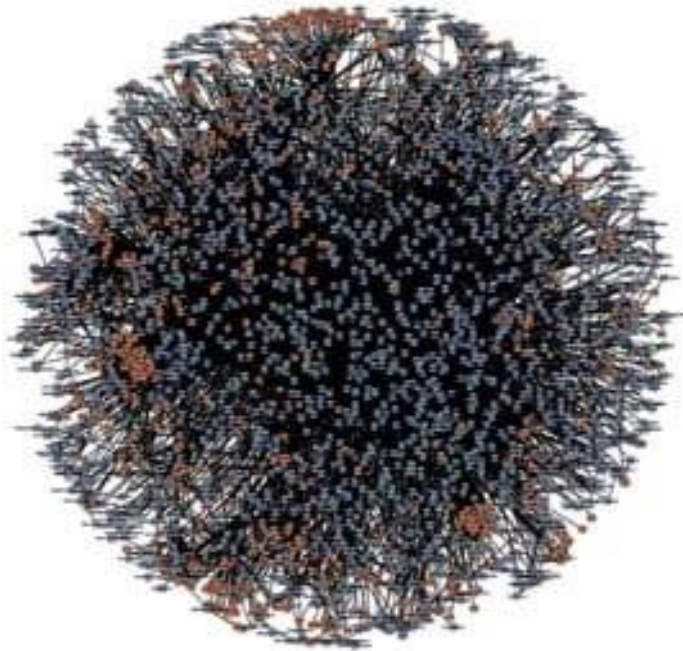
i.e a few years ago



**New paradigm,
New challenges**



Microservices instead of a Monolith



amazon.com[®]



Cloud Native Architecture and Kubernetes

Kubernetes Control Plane (Master)

API

Etcd

Sched

C-M

C-C-M

Virtual Machine

Kubernetes Node

Pod

Container

App

Pod

Container

App

Container

App

Container

App

Kubelet

k-proxy

Kubelet

k-proxy

Virtual Machine

Kubernetes Node

Pod

Container

App

Pod

Container

App

Container

App

Container

App

Kubelet

k-proxy

Kubelet

k-proxy

Virtual Machine

Kubernetes Node

Pod

Container

App

Pod

Container

App

Container

App

Container

App

Kubelet

k-proxy

Kubelet

k-proxy

Open Source & Cloud Services



Data Collection



Data Analyzing



Data Storing

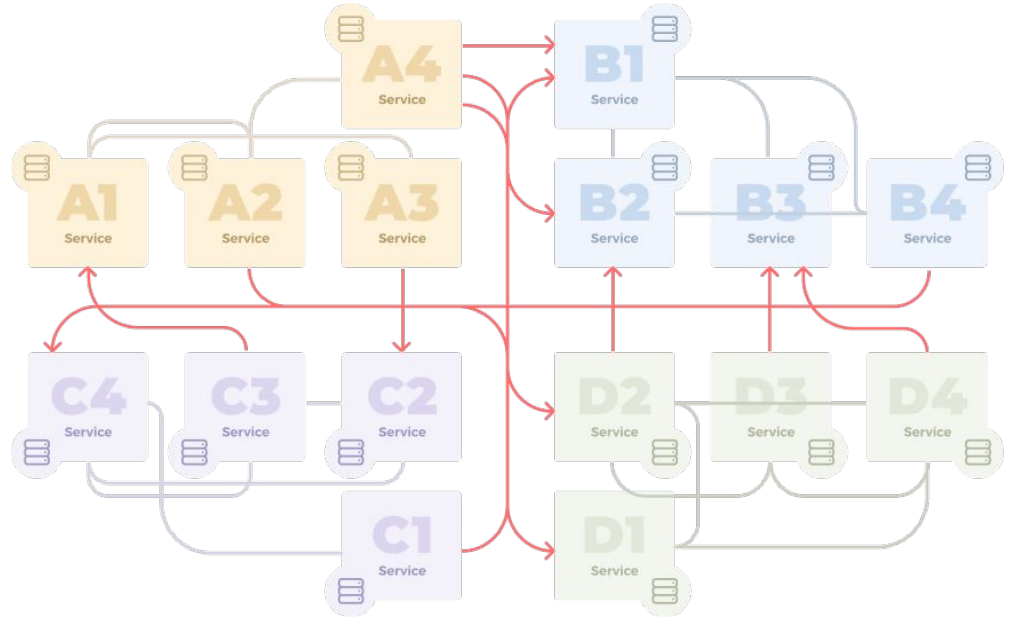


Data Querying



Challenges

1. Microservices
2. Cloud Native
3. 3rd Party OSS/Cloud



**New challenges call
for new capabilities**



Flexible Querying over High Cardinality

prod.webserver.html.request.total

⇒

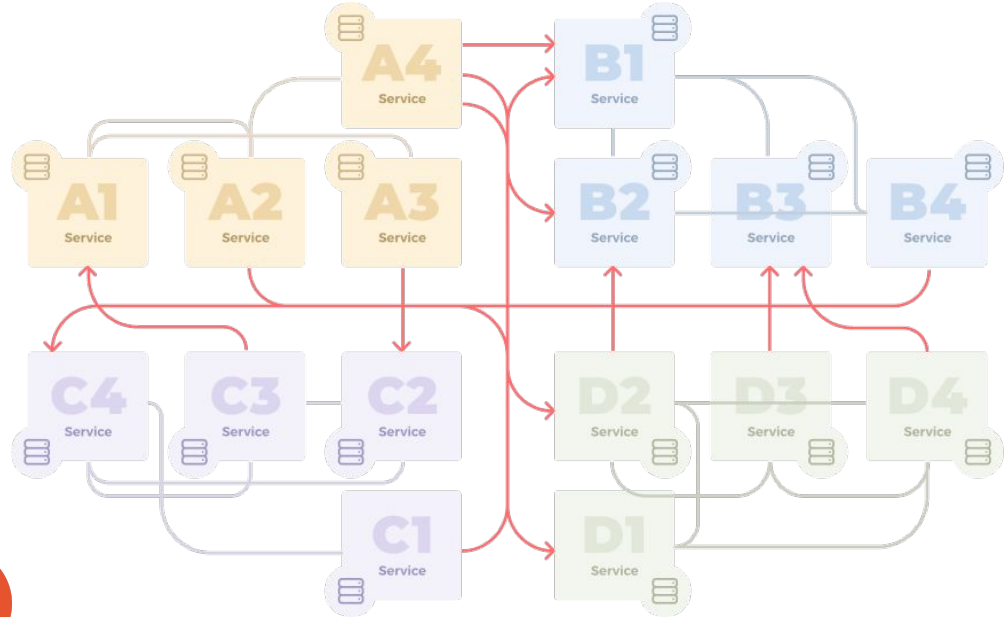
prod.node2.pod7.html.request.total

⇒

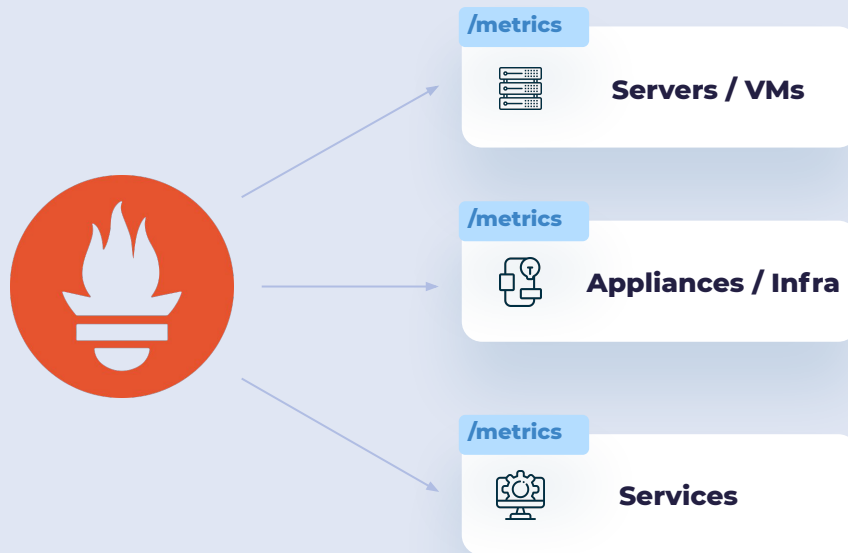
prod.nginx-service.html.request.total

⇒

http_requests_total{**env**="prod",
service="nginx", **server**="pod7"}



Metric Scraping and Autodiscovery



Clustered Scalable Solution

 Thanos

 influxdb

 M3

 cortex

 logz.io



Long-Term Storage

remote_write



/metrics



Servers / VMs

/metrics



Appliances / Infra

/metrics



Services

SUMMARY



Monitoring Microservices Requires

1

Flexible querying
with high cardinality

2

Efficient metric scraping
with autodiscovery

3

Scalability to handle
large volume of metrics

Open source to the rescue: Prometheus, OpenMetrics, TSDB, K8s/CNCF ecosystem

For further information

- <https://logz.io/blog/monitoring-microservices-best-practices/>
- [OpenObservability Talks](#) podcast
- <https://prometheus.io/>
- <https://openmetrics.io/>
- Discussions on CNCF [slack](#) channels, gitter, mailing lists



Thanks

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