



KubeCon



CloudNativeCon

North America 2024

But wait! There's...still more?

Observability data volumes and strategies for managing them.

Éamon Ryan - November 12 2024





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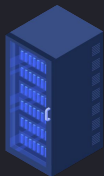




History



History - Metrics (then)



(probably) Bare-metal servers, (maybe) some VMs

ZABBIX

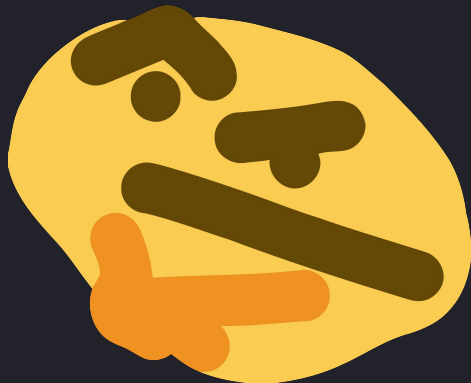
Initial release	April 2001; 23 years ago
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Nagios®

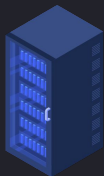
Initial release	March 1, 2002; 22 years ago ^[1]
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Left Beta in 2008



History - Metrics (now)



Still here!



EC2, GCE, Azure Compute, vSphere etc.



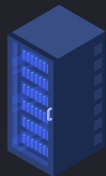
Docker, Podman etc. + k8s



Or Thanos, Cortex, Mimir, etc.



History - Logs (then)



(probably) Bare-metal servers, (maybe) some VMs

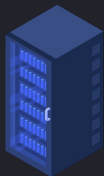
syslog-ng (1998)



(2004)



History - Logs (now)



Still here!



EC2, GCE, Azure Compute, vSphere etc.



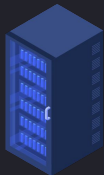
Docker, Podman etc. + k8s



Cheaper to log, followed by log explosion

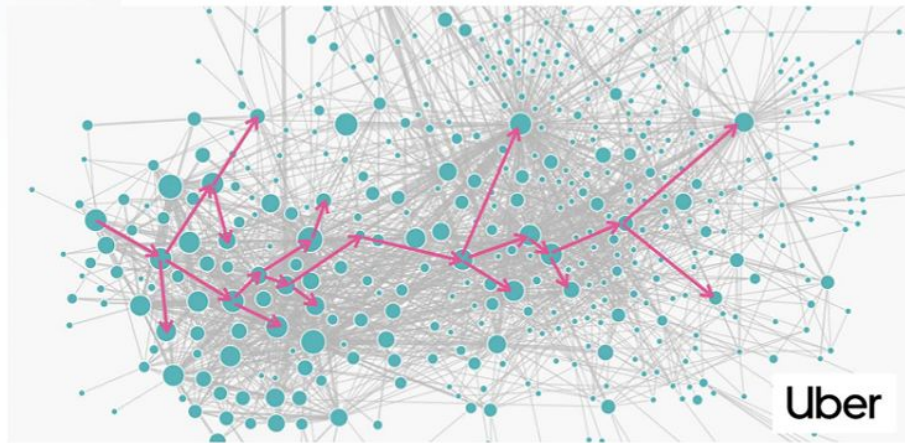


History - Tracing (then→now)

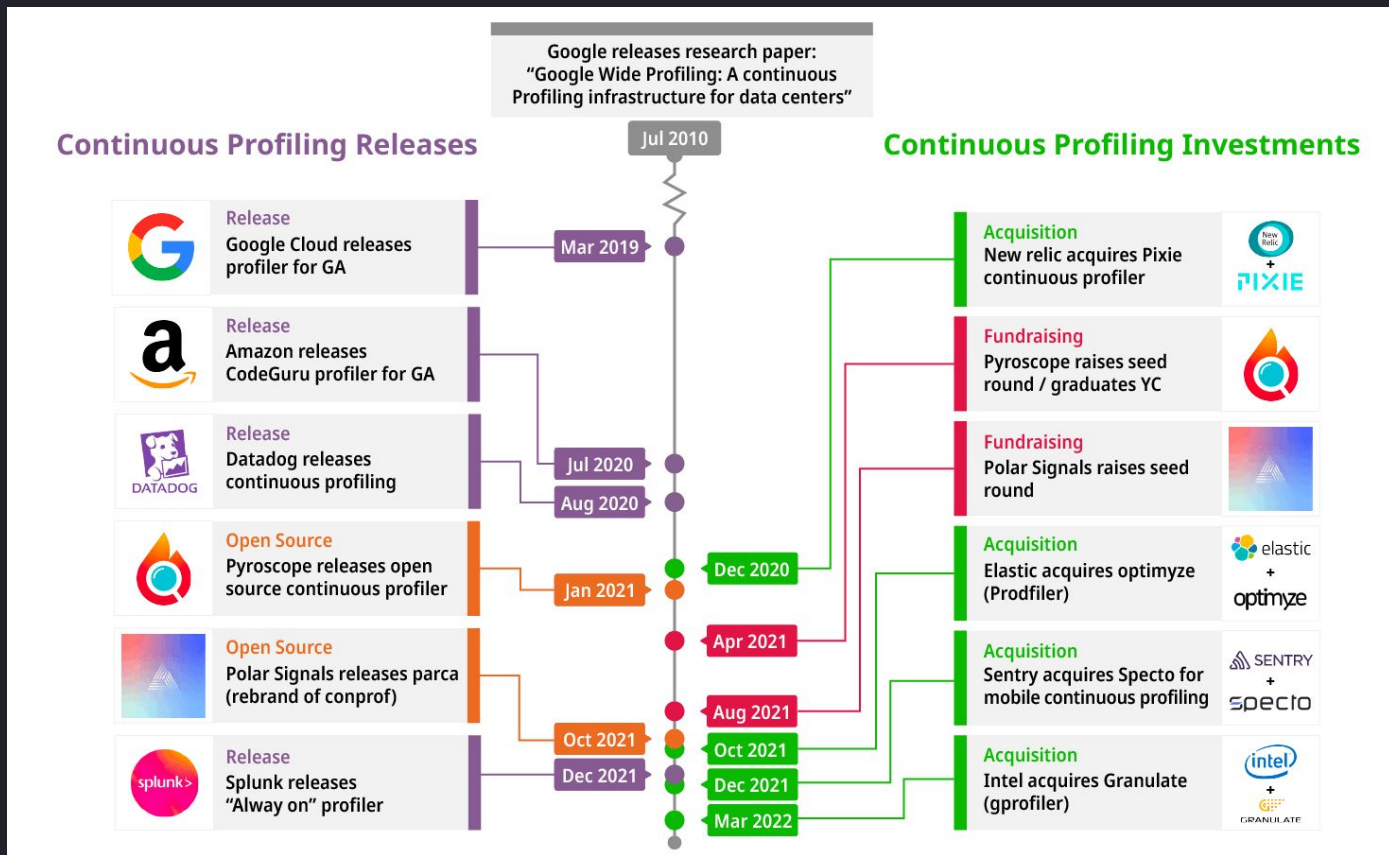


Some folks tracing transactions through single-thread apps

Diagnosing the Long Tail



History - Profiles (then→now)



So where do we land?

Metrics Logs Traces Profiles

Anything from terabytes → petabytes per month

Anything from gigabytes → terabytes per day/week



Large volume problems



Large volume problems - Storage



Large volume problems - Writes



Large volume problems - Reads



Large volume problems - Expertise



What do people do?



What do people do?



What *should*
people do?



What *should* people do?

Metrics

- Scrape interval
- Downsampling
- Retention period
- Drop unused metrics
- Aggregate



What *should* people do?

Logs

- Use log levels correctly
- Build-in log sampling
- Retention period
- Establish clear logging policies for developers



What *should* people do?

Traces

- Remove unneeded attributes
- Sampling (generally tail over head)
- Retention period
- Remove useless spans
- Watch for span length



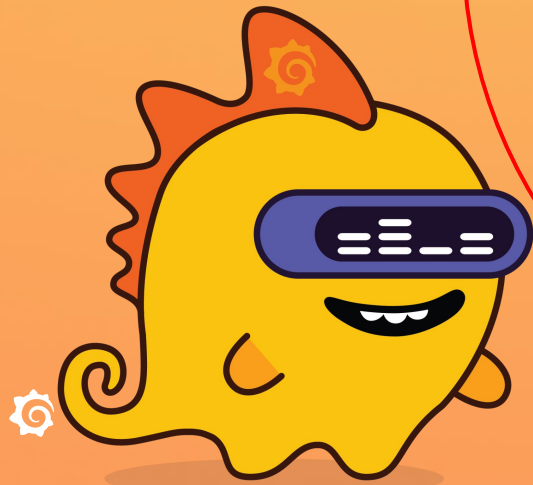
What *should* people do?

Profiles

- Sampling targets
- Retention period



Future



Future

- Adaptive is what people probably want
- It's hard to make something that suits everyone
- Take a look at Observability Volume Manager at 4:30PM





Observability Day

NORTH AMERICA



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Booth R7

