

The hidden cost of the instrumentation

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Instrumentation? 🤔 🤨

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- Service Level Agreements(SLA)
- Good night's sleep 😴 zzz

 “Hope is not a strategy!”

<https://sre.google/sre-book/introduction/>



The Reliability mandate starts with Instrumentation

You can only improve what you measure.



Landscape of the Instrumentation



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- Patty(application)
- Along with Mayo sauce(RDS/DB)
- And Ketchup(Third party services)



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“Full stack observability” FTW!

💡 Modern applications are like living organisms that grow and shrink in all possible directions.

And also communicate with their friends!

Bow in the Temple of Observability 🙇

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- Logs
- Metrics
- Traces

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- Profiling
- Events (External)
- Exceptions

<https://medium.com/@YuriShkuro/temple-six-pillars-of-observability-4ac3e3deb402>

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How many people use more than 3 from these at the *same* time??

There ain't no such thing as free lunch 💰

Cardinality/Churn

- Capturing monitoring data is easier than ever today.
- A 3-node Kubernetes cluster with Prometheus will ship around 40k active series by default!

Operations

- Run, manage and operate the instrumentation of the entire stack.
- One more thing to operate besides the app.

Scale

- Make sure not just your app scales but also your instrumentation.

Tuning/Toil

- Constant tuning of monitoring data
- Resulting into Engineering Toil

C.O.S.T. 

Cardinality/Churn, Operations, Scale, Tuning/Toil

But what is the hidden
cost? 🤔

Distraction!

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- Reduce the Datadog monitoring cost, it is going out of hand.
- Our logs are piling up from last 2 days, can you please look at it as P0 and contain them? Otherwise vendor will charge us double.
- Today is new year's day and our prometheus is not getting required metrics. Ignore the product release, just fix this for now, we are blind otherwise.



A modern systems engineer has to not just maintain their software but also Instrumentation of that software.

Fatigue!

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- Too much information de-sensitises us.
- Duplicate alarms.
- Focus on getting more and more data rather than why even we are getting it.
- Debugging becomes difficult because there is just too much of data, we don't know from where to start.

What's the way out? 🏆

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- Focus on data that gives early warnings with least amount of data
- Think about Apple watch 🕒 - only vitals such as heart rate or sleep metric.
- Detailed X-Ray scans and ECG reports 📄 once the vitals are off the track.

💡 A threat of breaking is better.


Plan of action

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- Plan what to measure why not how
- Emit (only what you need)
- Observe and Track (usage)
- Prune (unused) aggressively
- Store less for less amount of time.
- Focus on what can give best value for the money

A Better Plan of action

- Access Policies
- Data storage policies
- Standards

 Less is better.
Because Instrumentation is liability.

Thanks

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