Tracing is more than traces: the insights in trace aggregates

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This slide deck is visibly incomplete, clearly I suffer from procrastination. The presentation itself will hopefully be more interesting.

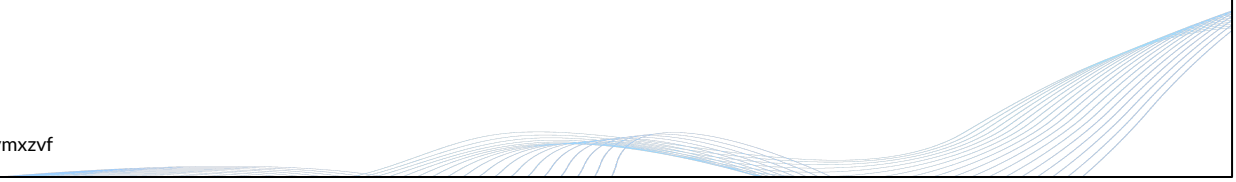
Quick review

Metrics

Logs

Traces

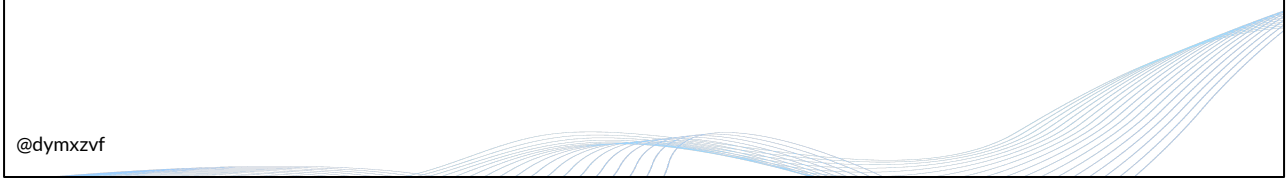
Insert interesting illustrations



A single trace

Everyone knows this, so let's move on quickly

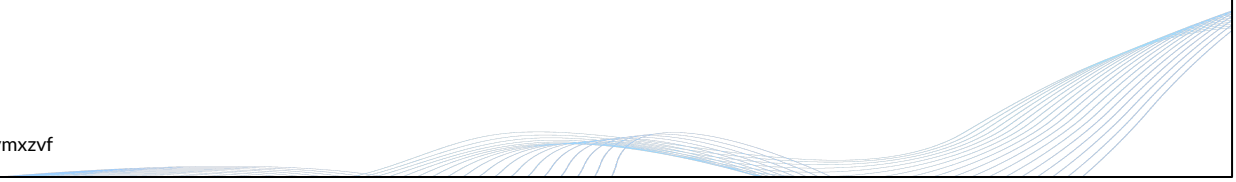
Insert picture of a captivatingly good trace (multi-span)



It’s only one though

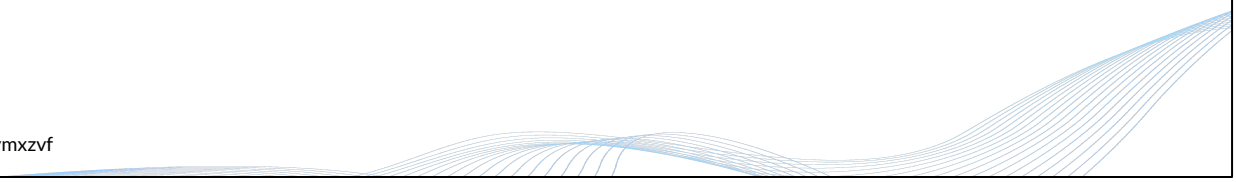
Tracing as a cost-effective solution always involves sampling

Am I looking at THE trace?



Trace aggregate analysis

1. Correlating ANY characteristic of the system with metrics
2. Latency anomalies in context of service infrastructure
3. Critical path analysis => resource contention



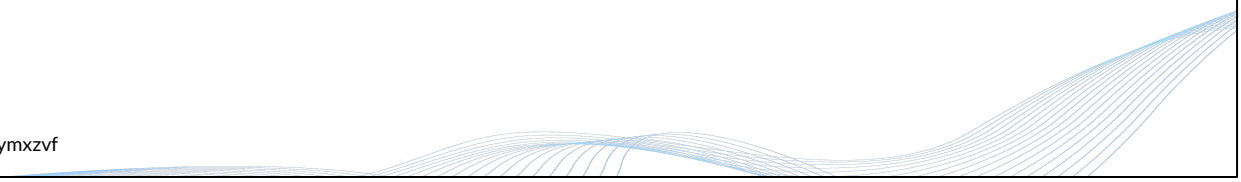
Correlation based on statistical analysis

Thousands of customers

Point A - Symptom: metrics out of whack

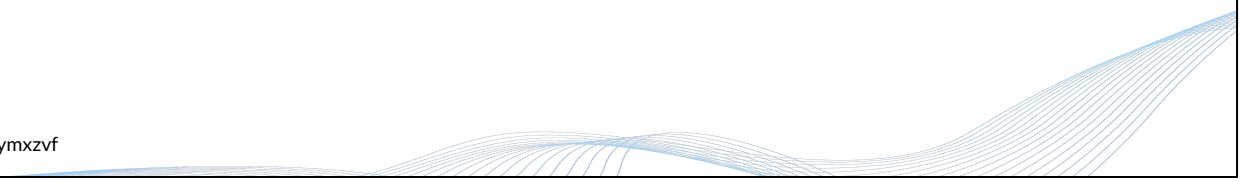
Point B - Root cause: 1 customer

How long does it take to get from point A to B?



Correlation based on statistical analysis

Insert visual to demonstrate how it works

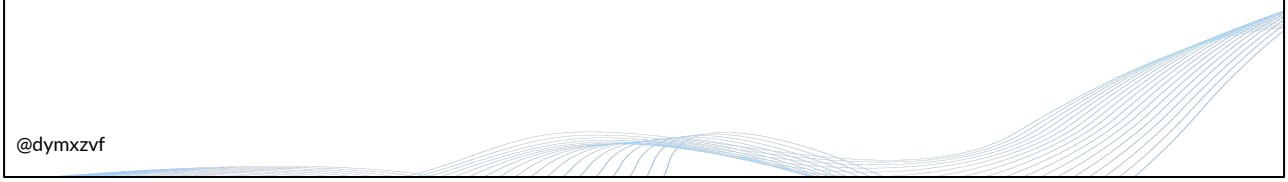


Latency anomalies in context of service infrastructure

Specifically applied to latency

Faulty network card in a data center

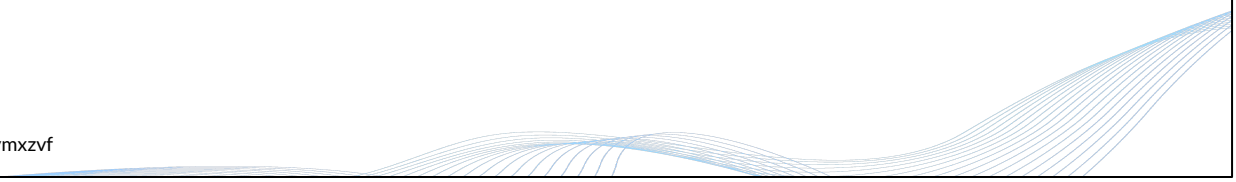
Explain your p99.99!



Latency anomalies in context of service infrastructure

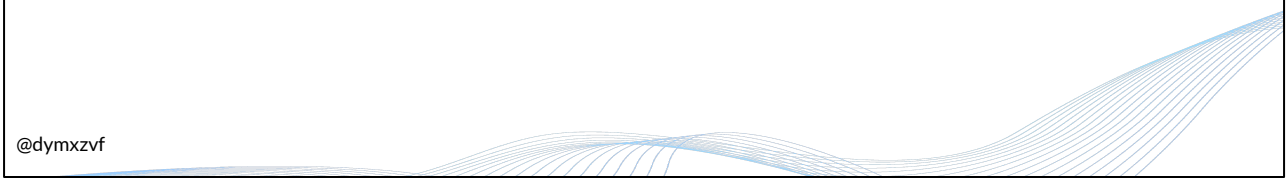
Insert visual

Remind everyone how you sample your analyzed traces is important here



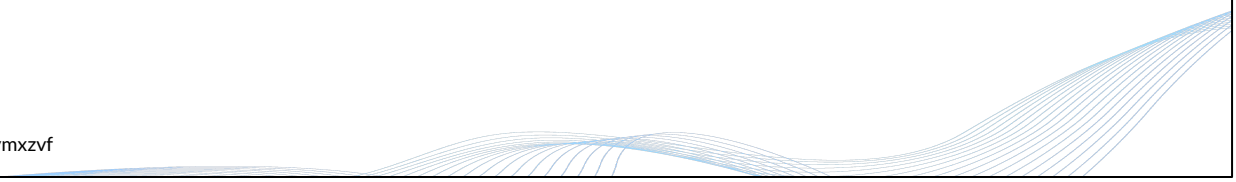
Critical path analysis => resource contention

Visual to show critical path derived over many traces



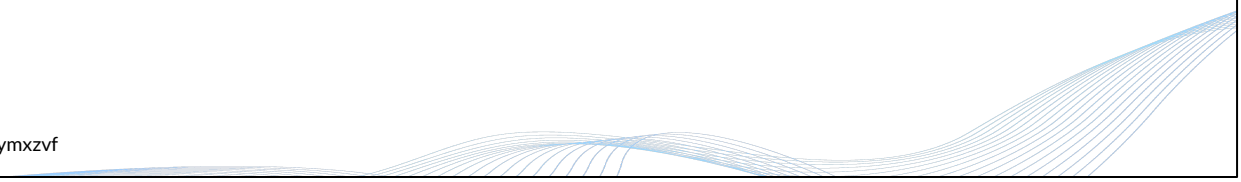
Critical path analysis => resource contention

But why?



Critical path analysis => resource contention

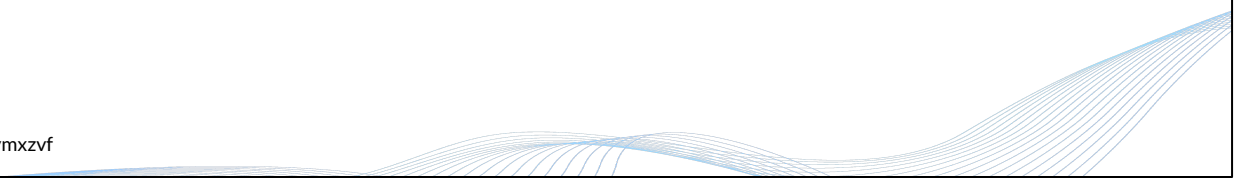
Sometimes you just need deeper instrumentation



Critical path analysis => resource contention

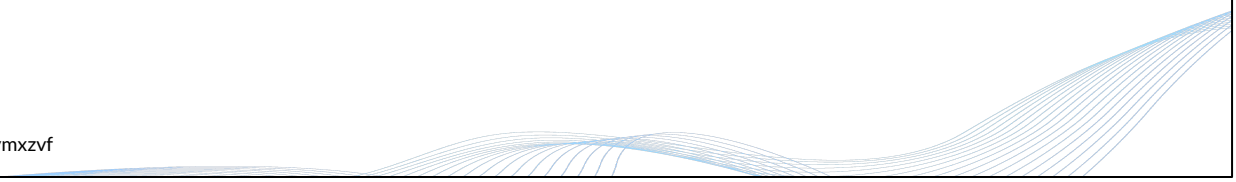
Ah but you wish it was that easy!

Show mutex contention



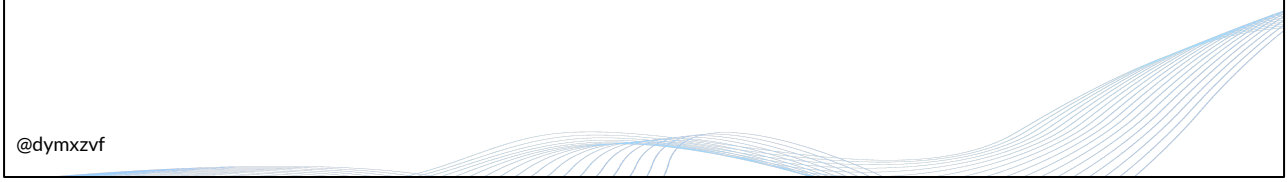
Resource contention

Quote bhs here, make a joke that no one laughs at



Resource contention

It’s like a traffic jam, you want to know what’s holding up all that traffic!!



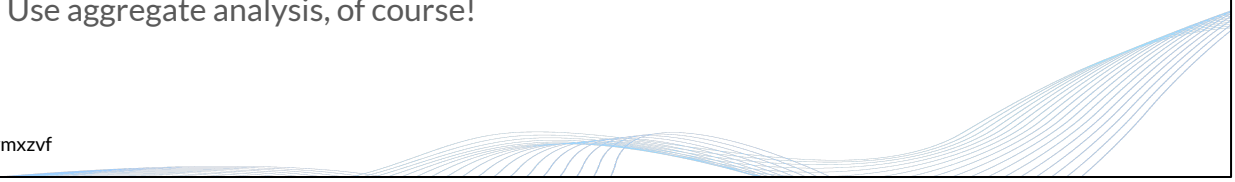
Resource contention

Thankfully there is a solution, what's the title of my talk? Who remembers?

…

…

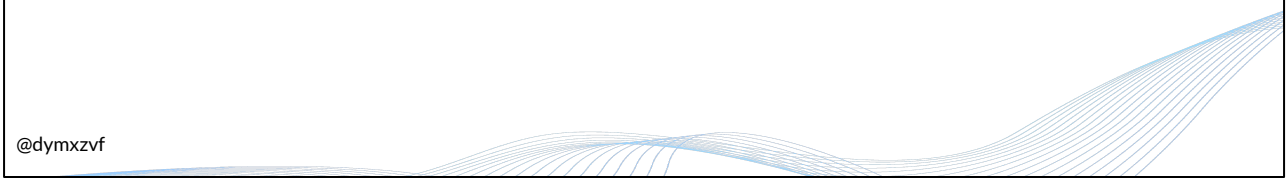
Use aggregate analysis, of course!



Resource contention

Really simple yet effective graphic on resource contention analysis

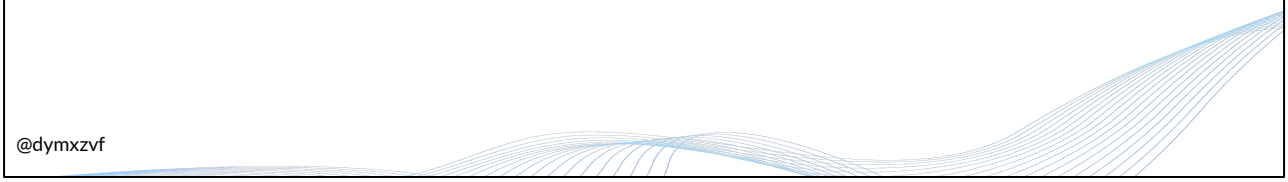
Will need help here, likely steal bhs' slide



Demo time

Uh… I really need to make this demo

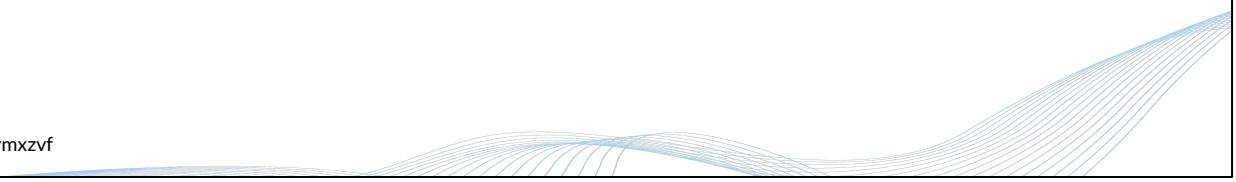
Show Donut as a Service (DaaS) architecture diagram here so demo makes sense



What was this talk about?

One word, what's the one word takeaway?

Hint: it's actually 2 words



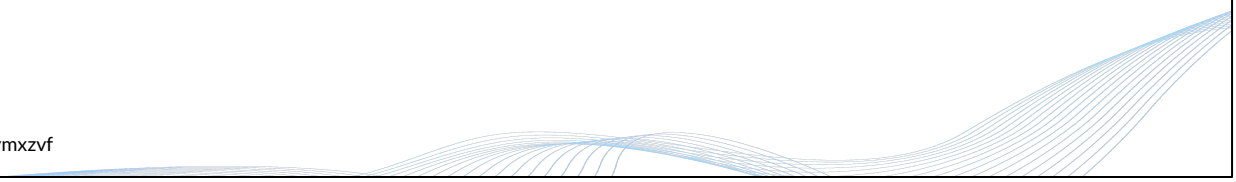
Trace Aggregates

@dymxzvf

Plug plug plug

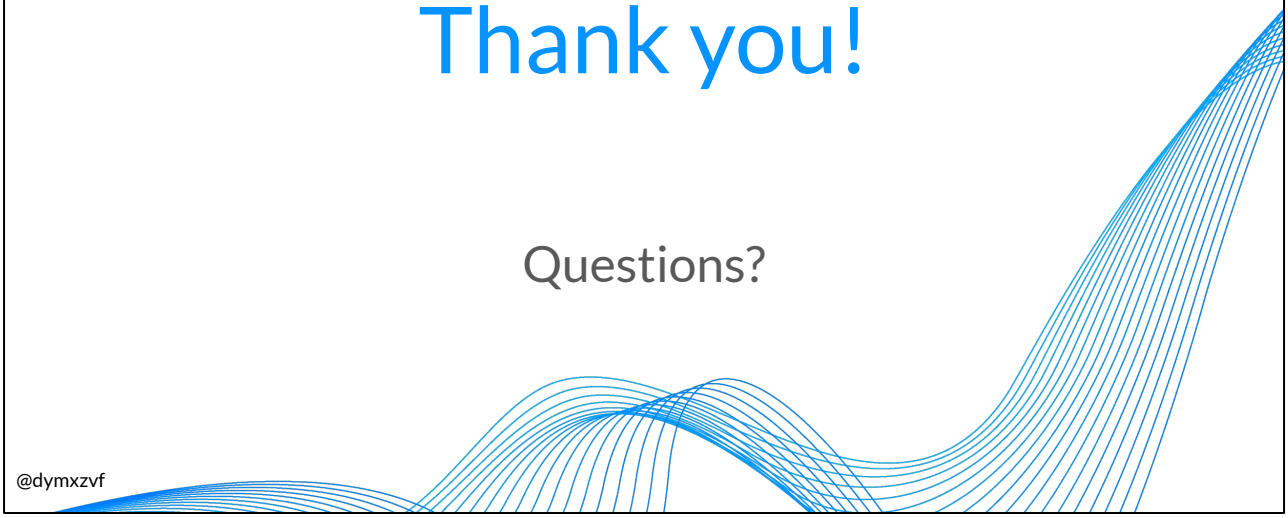
Quick, unannoying plug about OpenTelemetry

You want aggregates? You need lots and lots and lots of traces. You think you have lots already? Not enough!



Thank you!

Questions?



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