

Tracing is more than traces: the insights in trace aggregates

Daniela Miao
LightStep

@dymxvzf

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

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A single trace

Everyone knows this, so let's move on quickly

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

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It's only one though

Tracing as a cost-effective solution always involves sampling

Am I looking at THE trace?


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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

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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?

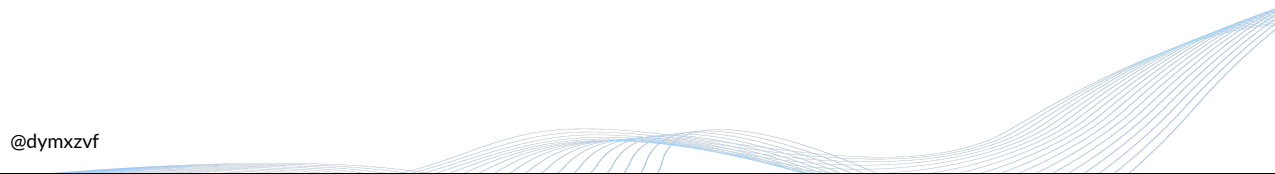
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Correlation based on statistical analysis

Insert visual to demonstrate how it works

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Latency anomalies in context of service infrastructure

Specifically applied to latency

Faulty network card in a data center

Explain your p99.99!

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Latency anomalies in context of service infrastructure

Insert visual

Remind everyone how you sample your analyzed traces is important here


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Critical path analysis => resource contention

Visual to show critical path derived over many traces


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Critical path analysis => resource contention

But why?


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Critical path analysis => resource contention

Sometimes you just need deeper instrumentation

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Critical path analysis => resource contention

Ah but you wish it was that easy!

Show mutex contention


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Resource contention

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


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Resource contention

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

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Resource contention


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

...

...

Use aggregate analysis, of course!

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Resource contention

Really simple yet effective graphic on resource contention analysis

Will need help here, likely steal bhs' slide

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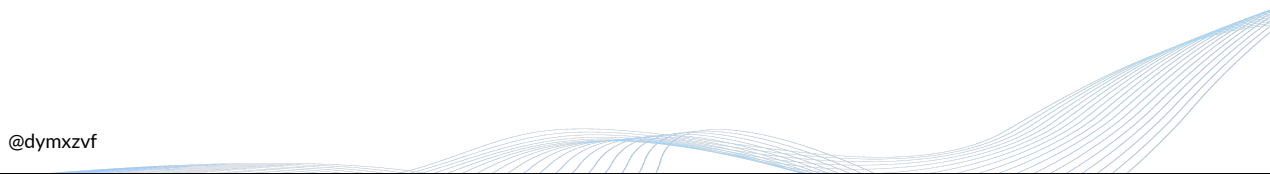
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Demo time

Uh... I really need to make this demo

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

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What was this talk about?

One word, what's the one word takeaway?

Hint: it's actually 2 words

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Trace Aggregates

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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!

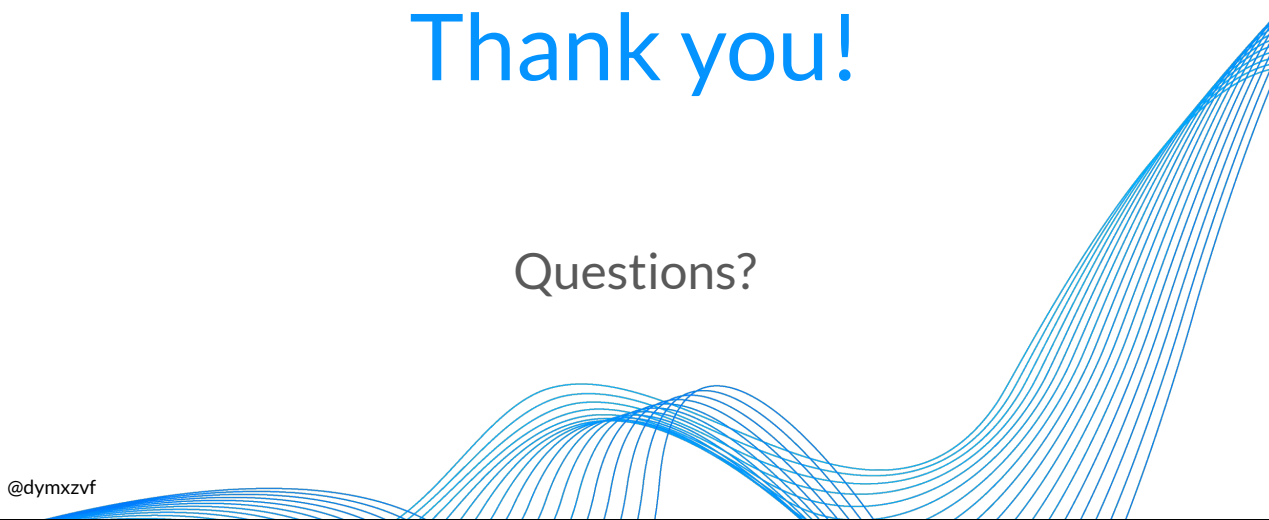
@dymxvf

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Thank you!

Questions?

@dymxvzf

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