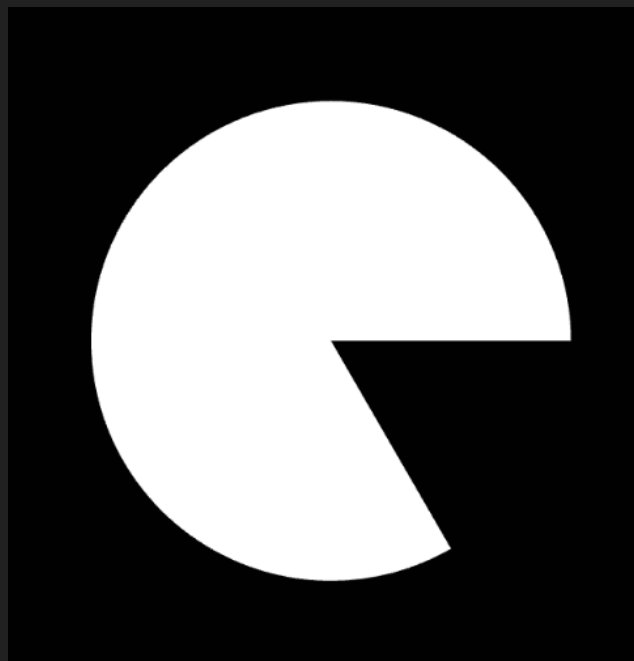
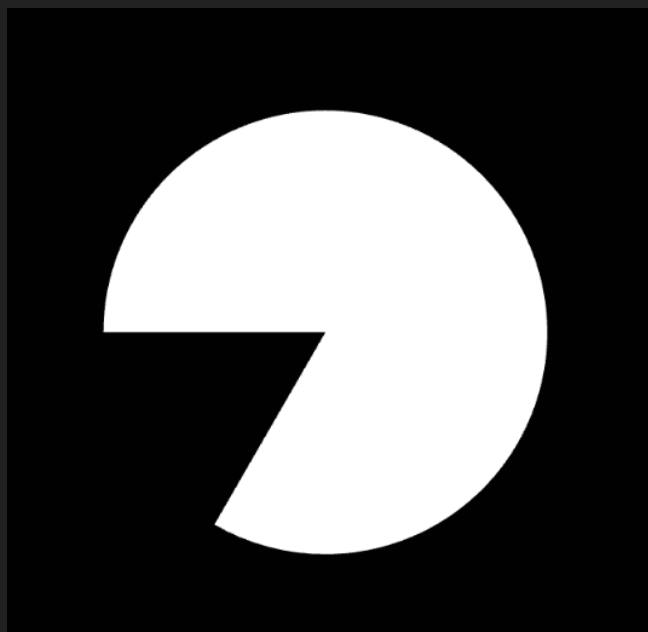


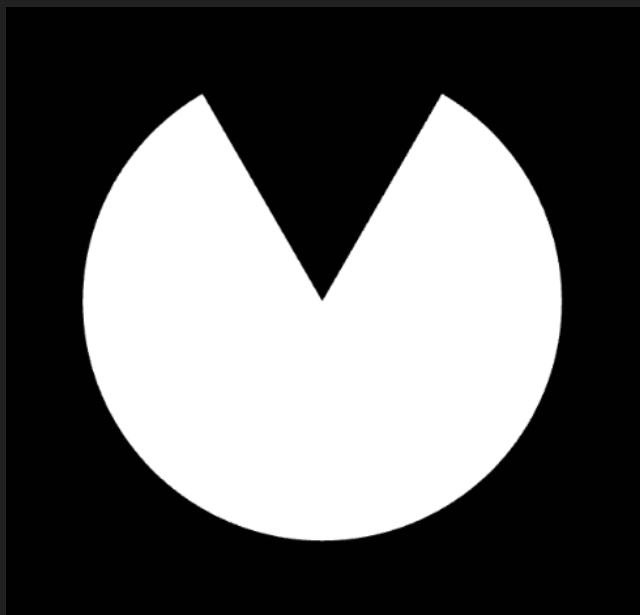
Joining The Dots

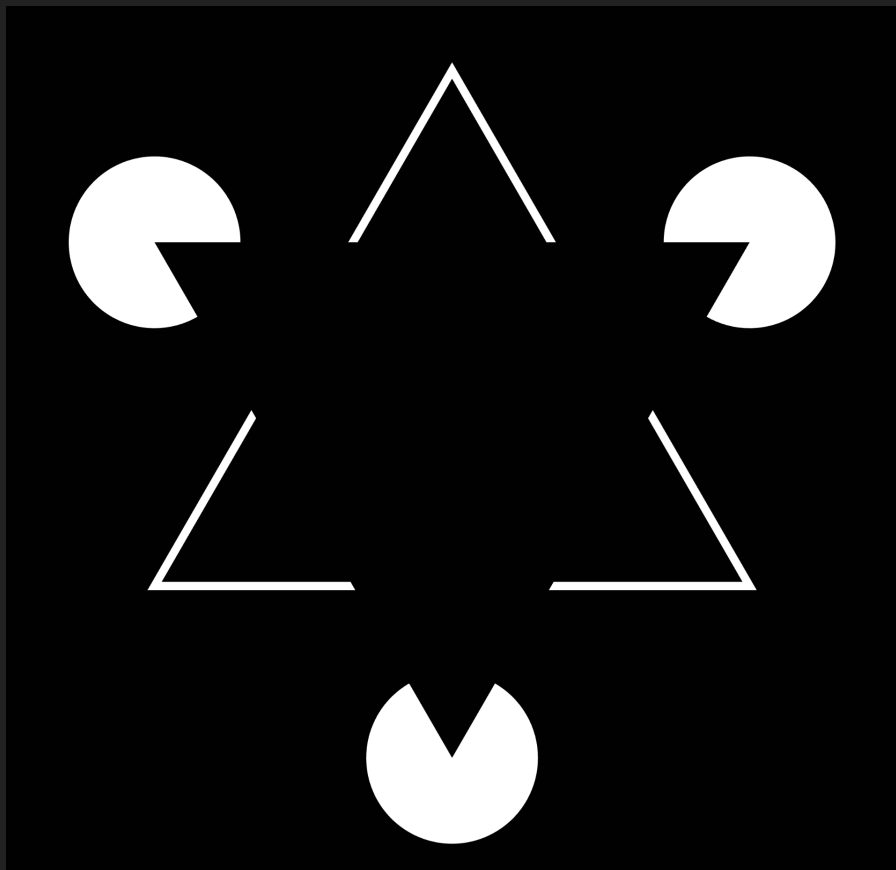
How Span Links And Fake Traces Draw The Bigger Picture

Observability Summit Europe 2026









‘Fibonacci’, [CC BY-SA 3.0](#), via Wikimedia Commons



Alix Klingenberg
Lead Software Engineer
Octopus Deploy



Cail Young
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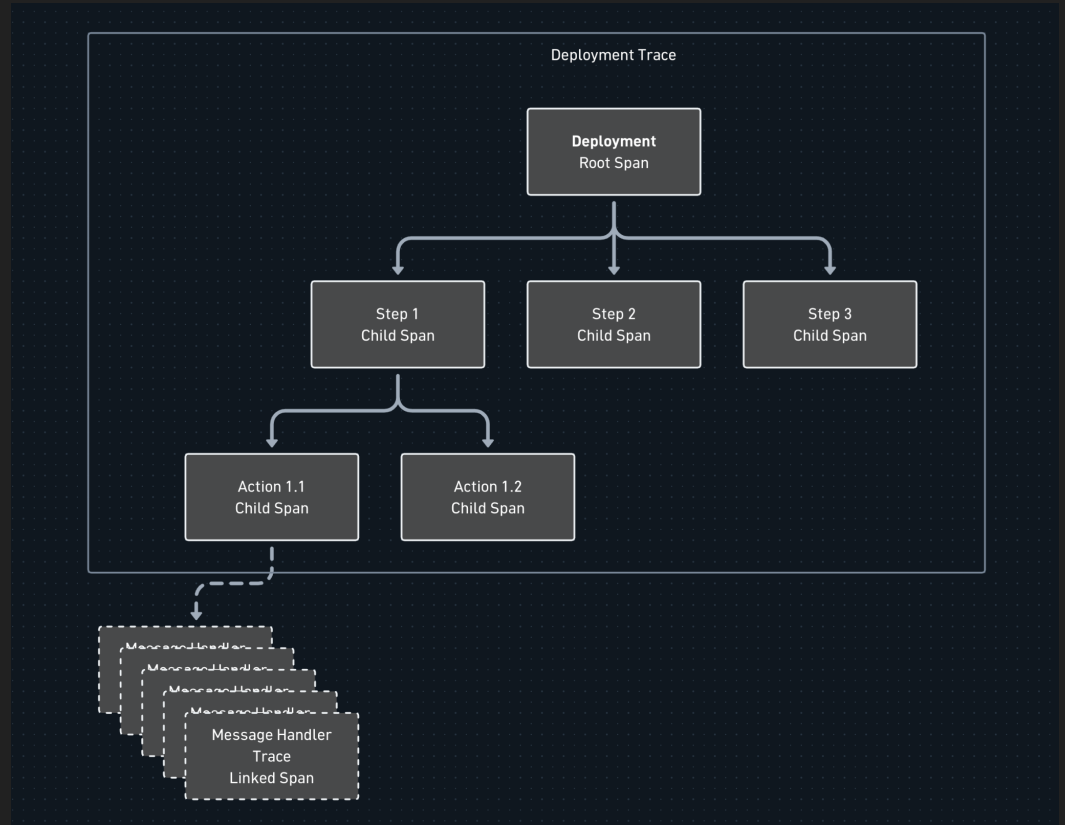
Automatic For The People Telemetry

Yes, this is many* traces

*many



Looks a bit like a tree data structure, doesn't it?



Fake It Til You Make It

Proposal: Add option to export processing spans in ForceFlush or periodically #373

🔒 Closed as not planned 👁



arminru opened on Dec 6, 2019

Member ...

<https://github.com/open-telemetry/opentelemetry-specification/issues/373>

Closed Sept 3 2026 🥲

Visibility of in progress traces #4993

🔄 Open 👁



slinkydeveloper opened on Mar 24

Last edited by slinkydeveloper ...

<https://github.com/open-telemetry/opentelemetry-specification/issues/4993>

How To Fake A Trace?

Can't Re-instantiate an Activity
Can't Set Span ID

```

var listener = new ActivityListener
{
    ActivityStarted = activity =>
    {
        var activitySpanIdObj = activity.GetCustomProperty("CustomSpanId");
        if (activitySpanIdObj is ActivitySpanId activitySpanId)
        {
            ActivityReflection.SetSpanId(activity, activitySpanId);
        }
    }
};
ActivitySource.AddActivityListener(listener);

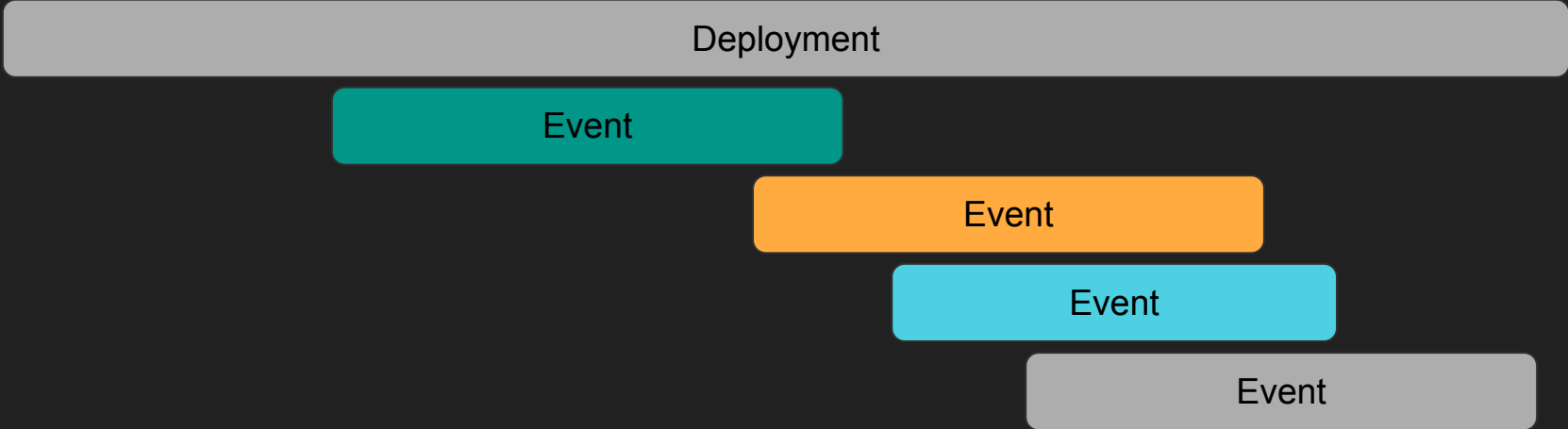
```

```

public static void SetSpanId(Activity activity, ActivitySpanId activitySpanId)
{
    var spanIdField = typeof(Activity).GetField(
        "_spanId",
        System.Reflection.BindingFlags.NonPublic | System.Reflection.BindingFlags.Instance);
    spanIdField.SetValue(activity, activitySpanId.ToHexString());
}

```

This is ~~hacking~~ reflection!



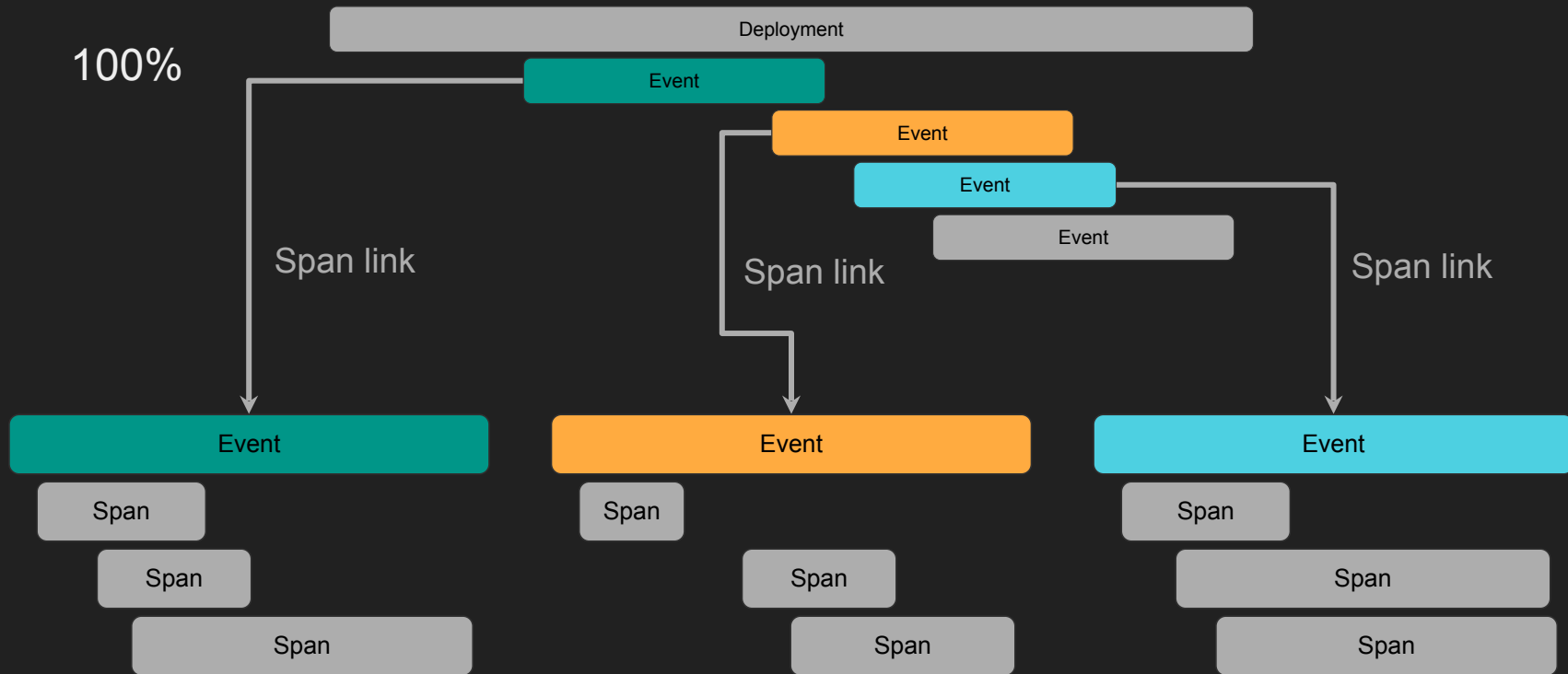
Deployment

Event

Event

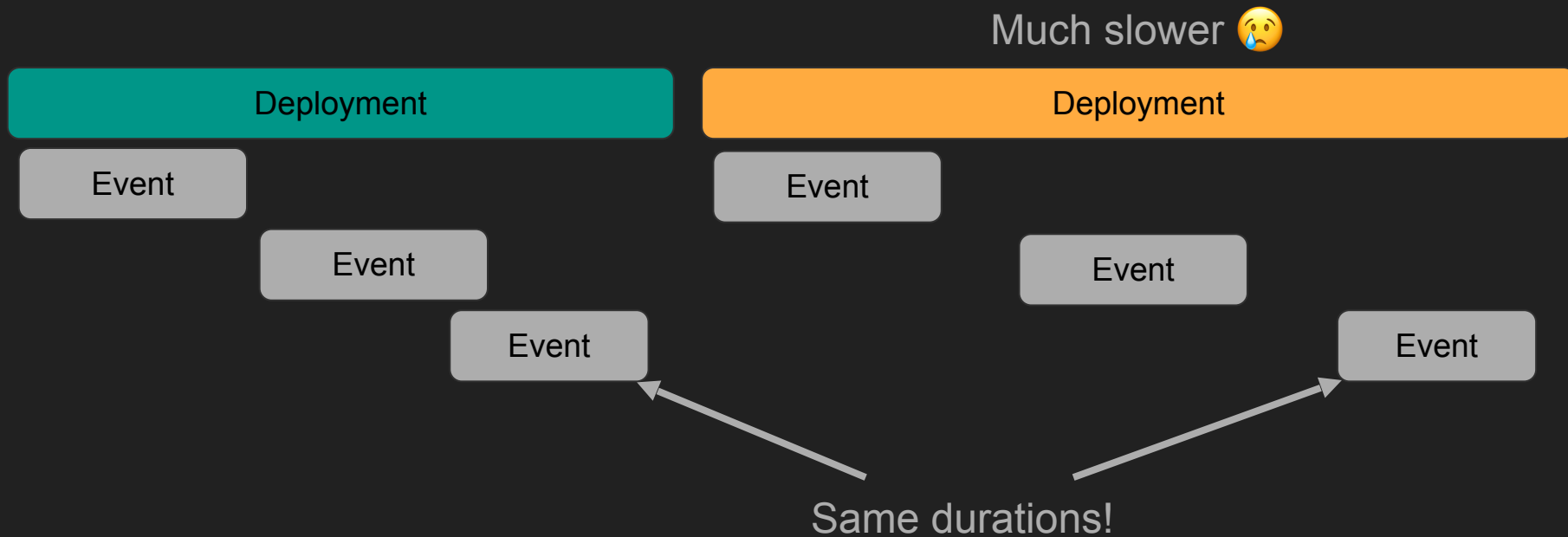
Event

Event



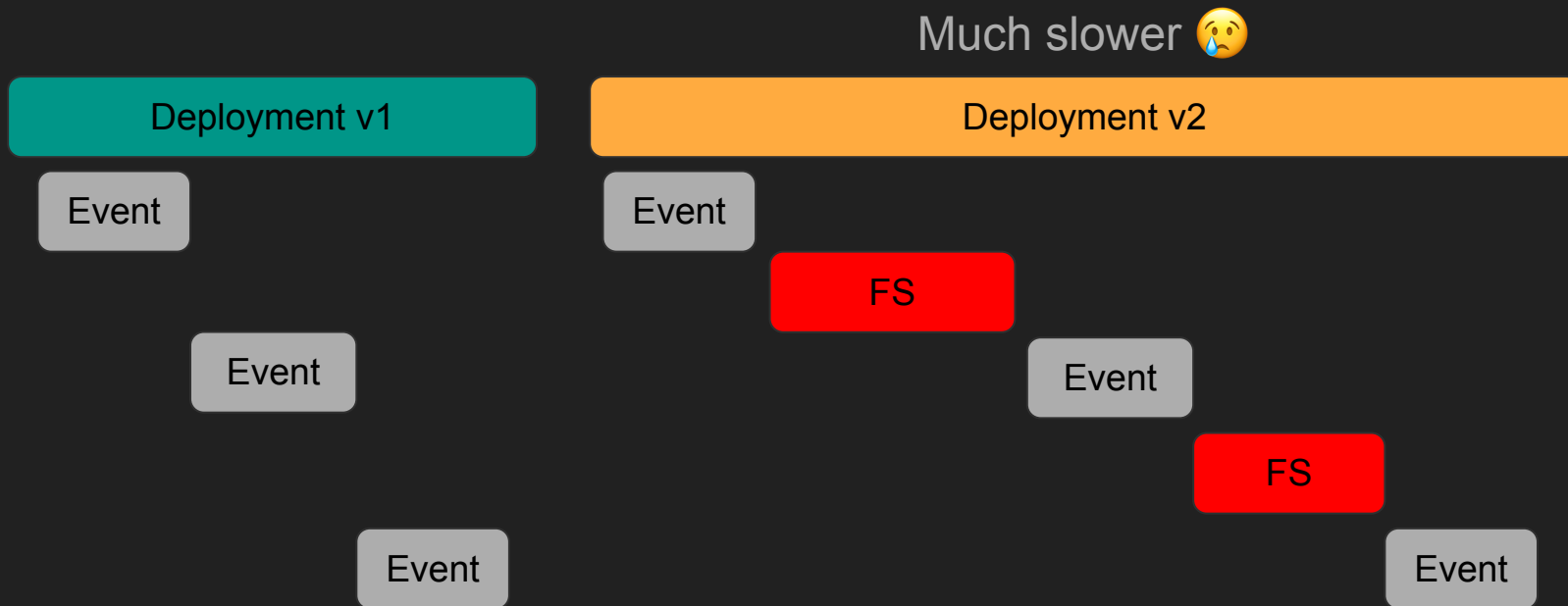
1/1000 + errors + 'slow'

The Undetectable Slowness Of Eventing



The (Other) Iron Triangle:
CPU / Filesystem / Database

The Undetectable Slowness Of Eventing



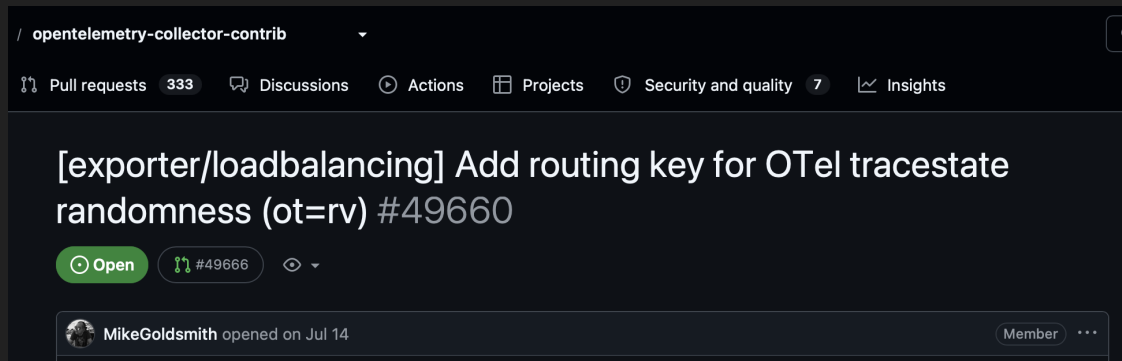
Still No Answers To Everything

When Can We Finish Talking About The Halting Problem?
Who Knows?

It's probably impossible to predict, anyway.

Distributed workflow: fake a trace
In-memory workflow: just slap a timer on it

Future?



Linked-trace workloads (AI agent conversations, browser sessions, multi-step workflows) produce many traces that form one unit of interest.

OTEP 235 anticipated sampling these together via

a shared explicit randomness value:

"There are circumstances where trace-id randomness is inadequate (for example, sampling a group of traces together); in these cases, an `rv` value is required." The `dynamic_sampling` processor honours a producer-set shared `ot=rv` so every trace in a group gets the same sampling decision

<https://github.com/open-telemetry/opentelemetry-collector-contrib/issues/49660>

‘Freezing The Firehose’ - SRECon EMEA ‘26

<https://www.usenix.org/conference/srecon26emea/presentation/young>

Acknowledgements

Feedback:



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Questions?