Ericsson Trace Compass update

Matthew Khouzam

Agenda

- Recap of Ericsson's involvement with the project
- The team
- The tracing ecosystem
  - Trace Compass
  - ~~Theia Trace~~ VSCode Extension
  - CDT-Cloud!
- Future work
  - Roadmap
  - Where can you help?
- Thank you
- Cool story, time permitting.

No Change!

The goal of this talk is STILL to explain where we are coming from to explain our decision making process

Ericsson has been an industrial partner in the research project for over 14 years

We develop and use tools such as LTTng and Trace Compass in the company to solve timing issues and hard to debug problems

Ericsson contributes to and maintains Trace Compass

The Montreal Team has been closely collaborating with the academic and industrial partners. Including US (Texas) and Sweden)

We are working towards having the entire team working at their peak efficiency.

About The Team (Dec 2023)

Bernd Hufmann – Technical Lead
Patrick Tasse – Employee (Internal Lead)
Marc Dumais - Devops
Elena Giovannetti – Director
Georges Bourret – Line Manager
Jakub Biernacki – Strategic Product Manager
Matthew Khouzam – Product Owner
Austin +Sweden teams – Developing internal use cases in open-source way

The Ericsson Tracing Ecosystem (no change)

- At Ericsson we have very intricate products offered to the public
- At a high level we trace many individual components
- One of the goals of Trace Compass is to provide a unified troubleshooting experience
- **This did not change, there are just more users and more use cases.**

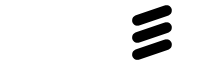
Traces

- LTTng
- Other Linux Tracers
- CTF Hardware
- Chromium style
- Open Telemetry

Logs

- HTTPD
- SSH
- Java (GC)

Trace Compass



- 9.1 Released, 9.2 Soon to be Released
- CTF 2
- Mainline Sched-wakeup – To make statistics more generic
- Security fixes
- Tech Debt reduction
- Efforts to mainline incubator flame chart
- IPV6 in PCap
- Fix Event Array Outputs

Think different.

Trace Compass Incubator

- Since June... Not much. However, we're getting ready for a big push with differential flame graphs.

Bold are external contributions from people attending, thank you!

Eclipse CDT Cloud (repeat)

- Place where contributions are welcome:
  - Full tracing example, like tracevizlab but for an IDE.
  - Expected flow:
    - Write code
    - Launch with tracing
    - Visualize trace
- PS: for new members, have you done tracevizlab's tutorials? 100% worth it!

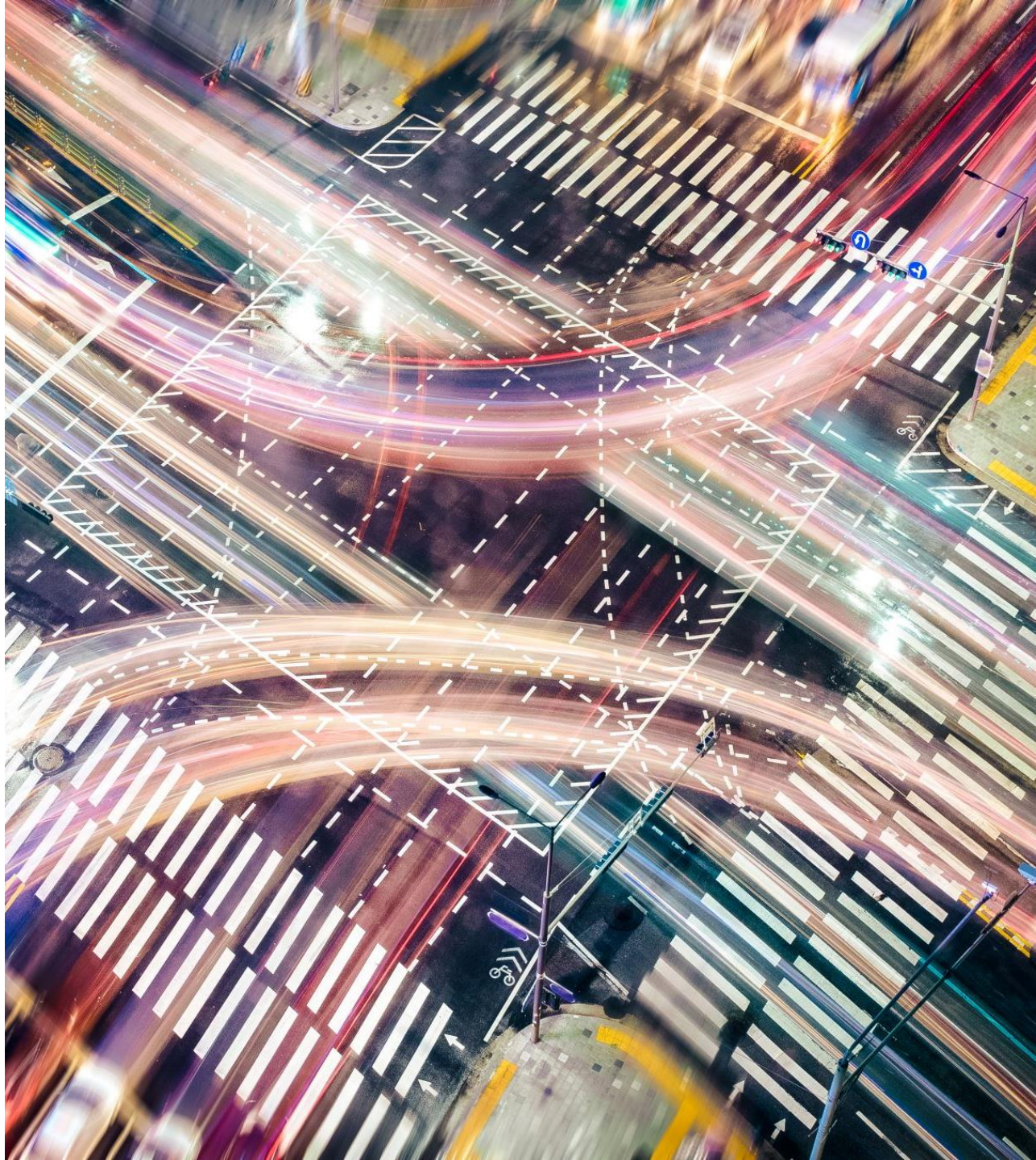
https://github.com/dorsal-lab/Tracevizlab

TC Cloud Frontend

- Most improvements are UX related as Theia is a UI shim over Trace Compass's core logic.

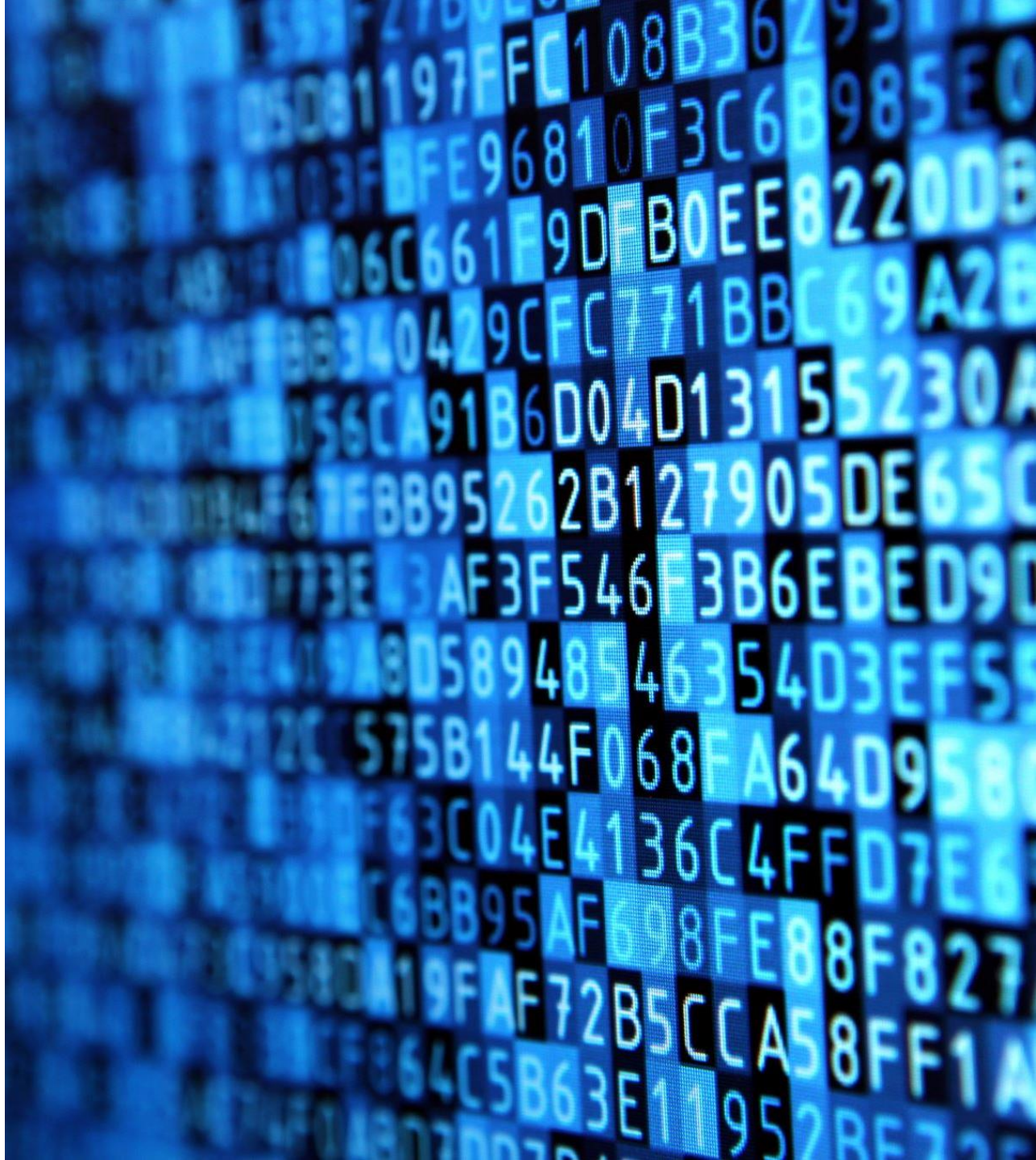
- Highlights:
  - New committer: Neel from Blackberry, welcome!
  - Many security fixes
  - Export data to CSV
  - Uplift libraries
  - Search Time Events
  - **Fix remote access. Speeds things up!**

Future Work



Move to VSCode

- End goal: Theia Standalone*
- Decouple Theia releases from Trace Compass Frontend releases
- Access VSCode users.
- But Theia should be better (detachable windows and community)
- Work on this started in ~2024* Should arrive to MVP soonish
- Resolved license/compliance issues:
  - VSCode Marketplace (yes, but no!)
  - OpenVSX (Yes!)
  - FOSS VSCode Remote alternative (Typefox)



Road Map

- Be a good Ericsson Citizen – Ongoing
- Software Compliance – We want to use FOSS in Ericsson!
- Expand community – Poly committers?
- Expand internal community
- Open-Source Activity and Leadership (General) - Ongoing
- Trace Compass Releases (Eclipse) - Ongoing
- Open-Source Features to support internal implementation of trace viewer (Theia) - Ongoing
- Continue to support internal hardware team
- Continue to support internal Linux teams
- CTF2 Support (Missing minor features 90% done!)

Trace Compass

- Internal Support – Ongoing
- Work on customizing the trace server from the client – Ongoing
- Support Poly's efforts re: Callstack
- Support Poly's efforts re: Partial State system
- Support Poly's efforts re: Diff Flamegraph
- **Performance improvement – On demand**

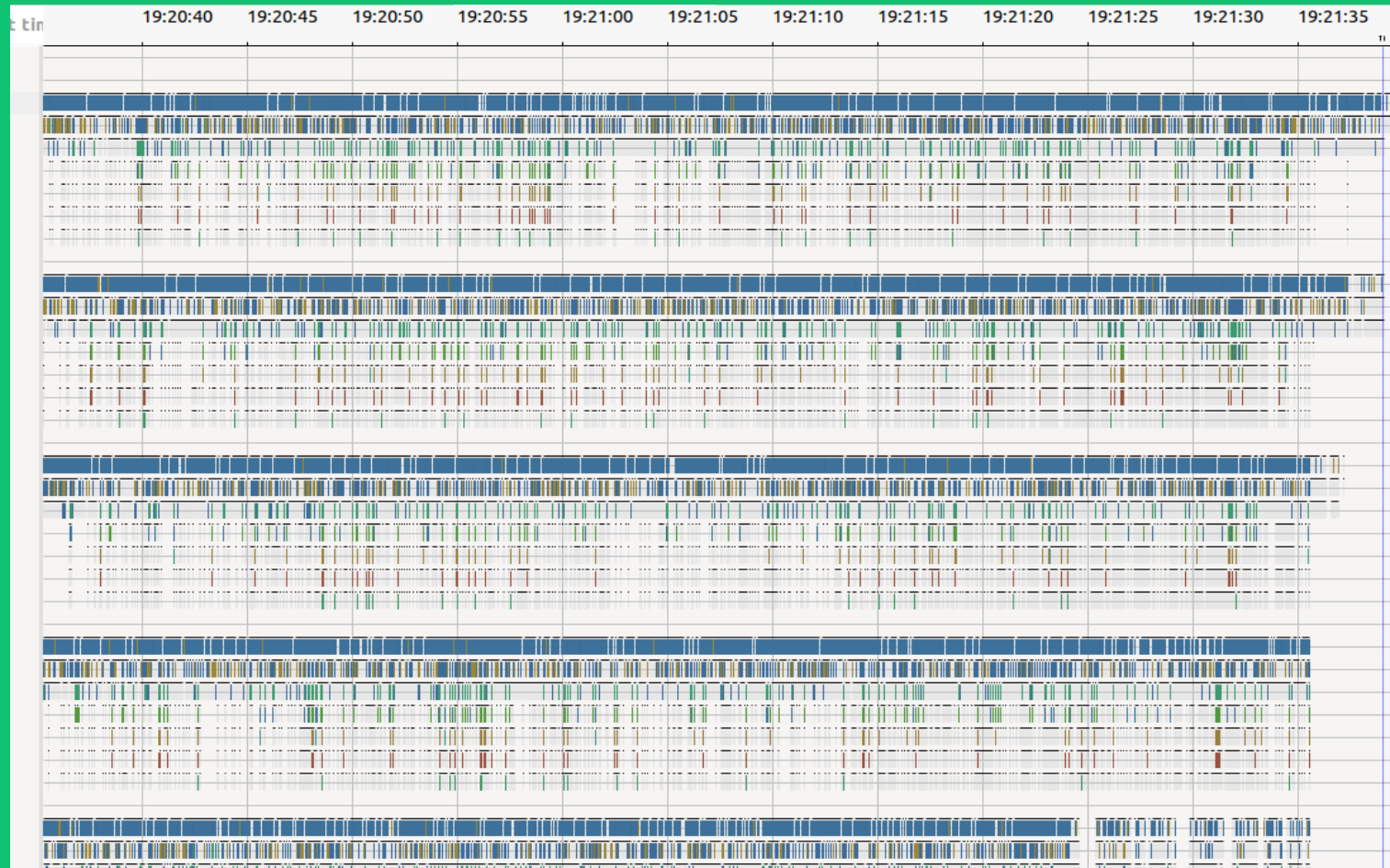
Web Based Front End

- Open-Source Features to support of internal trace format (Theia) - Ongoing
- Biggest change: Become a VSCode extension.
- VSCode MVP - Ongoing
- Migration to VSCode plug-in - Ongoing
- Time Graph-End Filtering – Done!
- Back-End Filtering – Ongoing

Cool Story

A service was slow

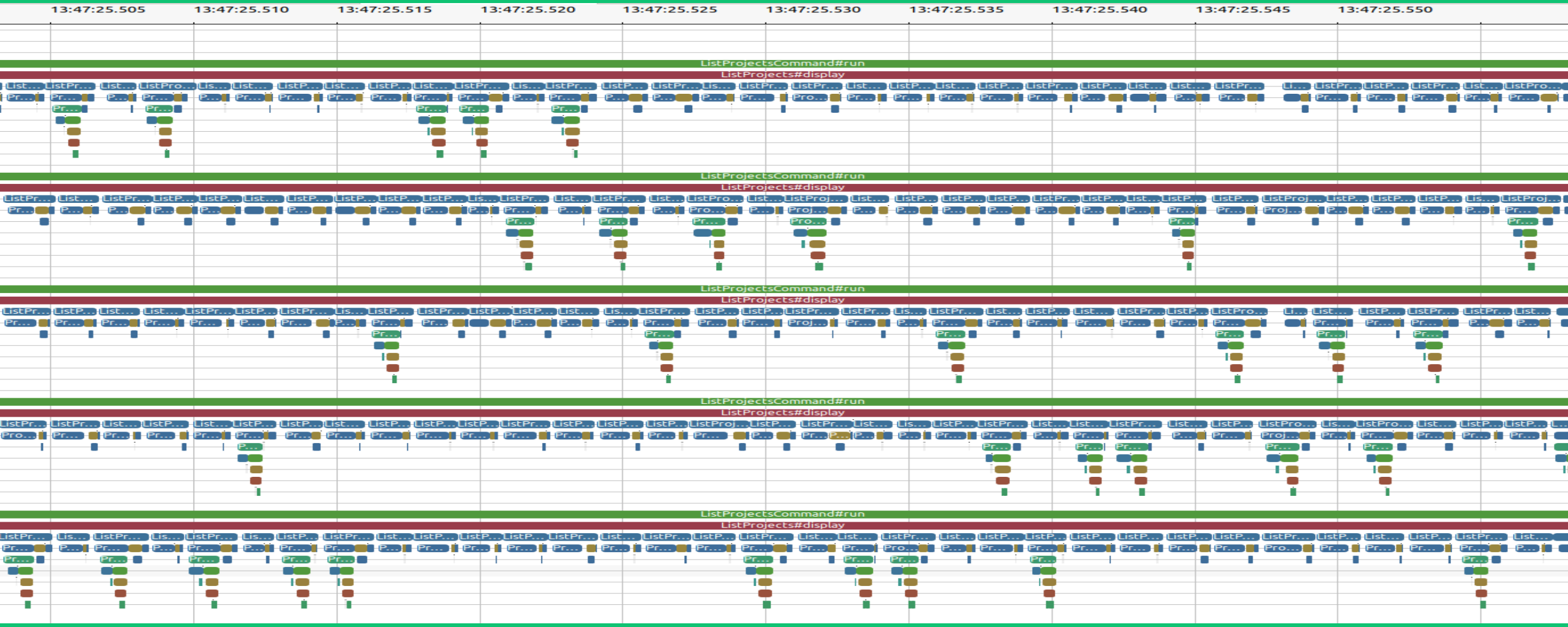
Web Based service.
Front-end/Back-end.
Java issue
Let's trace it!



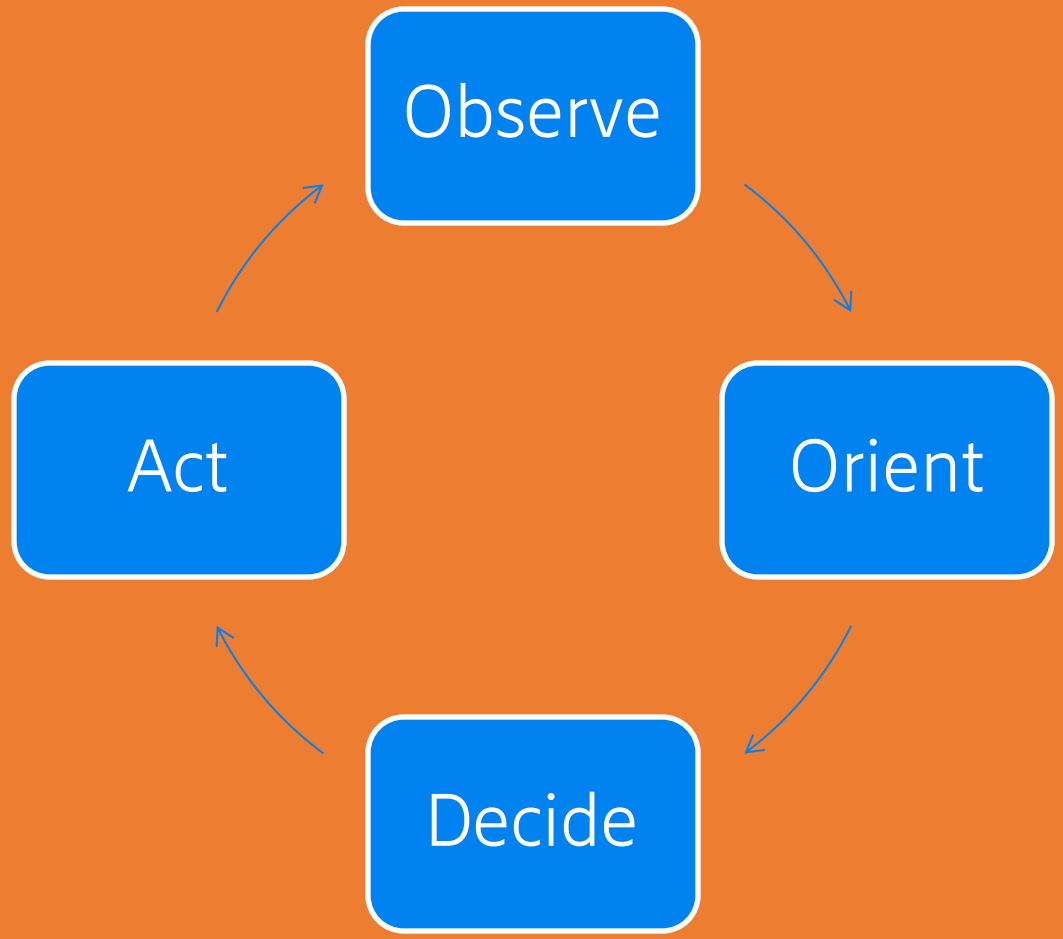
In Jaeger, it's web based after all. Looks like a barrier!

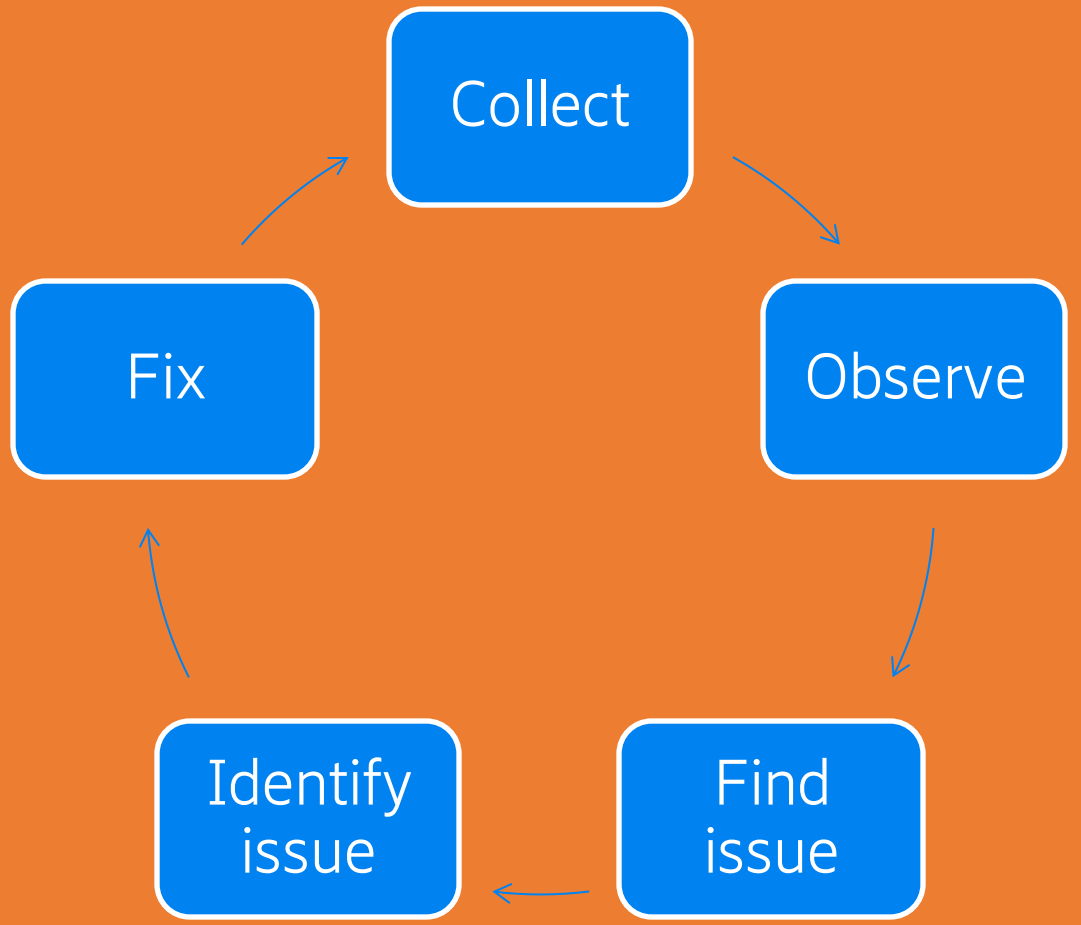
Artistic representation since I didn't keep the trace.

Interesting pattern – Cache lock-step



You also know the OODA loop, meet the COFIF* loop. *name needs work





Where can you help?

Drop a review, a bug or a feature request
Fix a bug, especially if it helps you and is not in our interest
Share use cases
We have limited bandwidth, we would appreciate code contributions

Thank You

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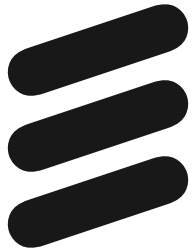
- Code Contributors
- Issue Reporters
- Designers
- Community Maintainers
- Enthusiasts
- Steak Holders