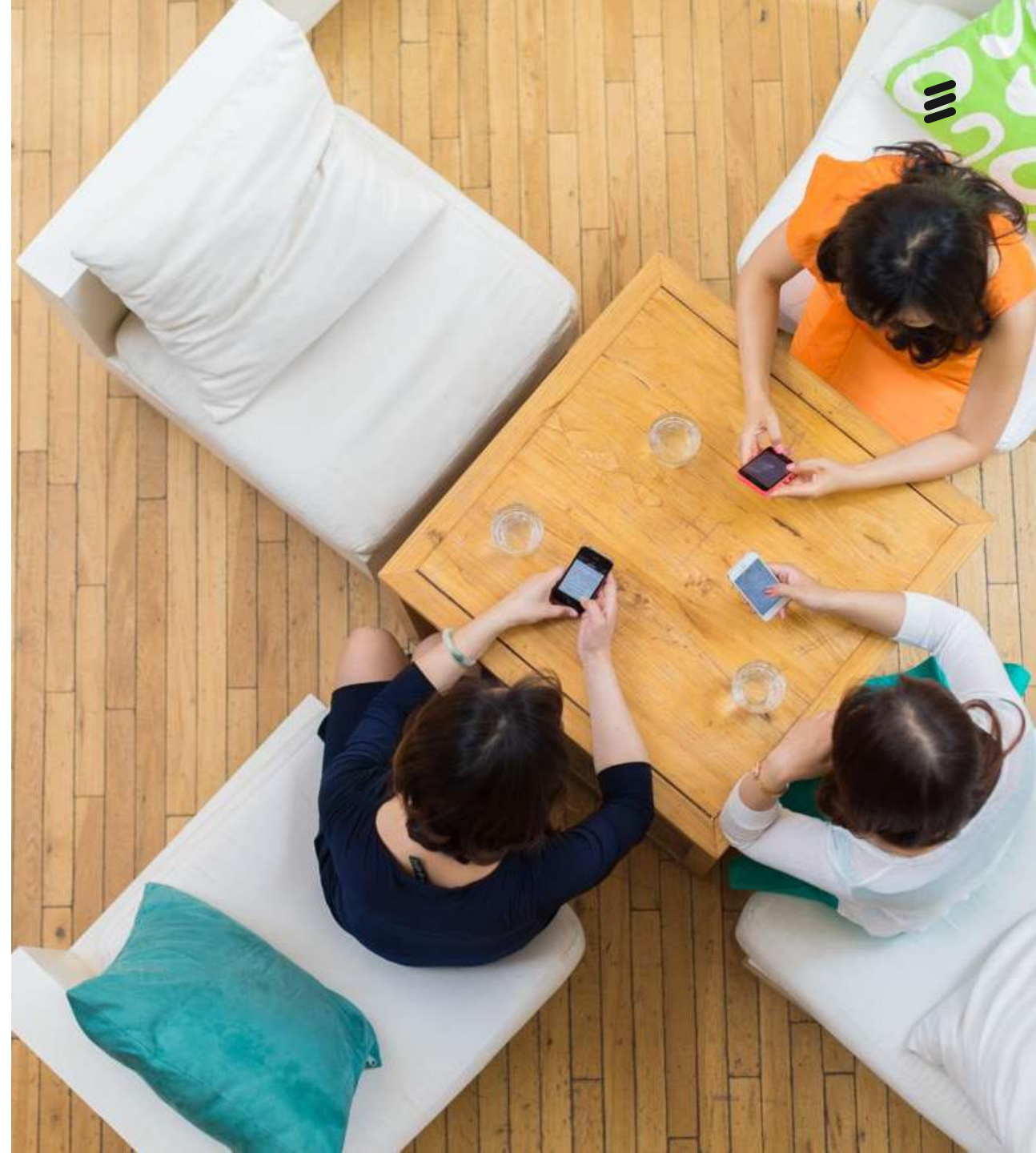# Ericsson Trace Compass update

Matthew Khouzam

Agenda

- Recap of Ericsson's involvement with the project
- The team
- The tracing ecosystem
  - Trace Compass
  - VSCode Extension
  - CDT-Cloud!
- How do we fit into Ericsson?
- 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 15 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 (May 2024) No Change

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

- 9.2, 9.3 Released, 10 Soon to be Released

- Decouple CTF parser from Trace Compass, to make a standalone parser

- Incubator flame(chart|graph) is mainlined! (Ongoing)

- Minor fixes

- Prep work for Execution Comparison

Trace Compass Incubator

- Flame Graph has graduated!
- ROS 2 enhancements
- Reduced size of incubator

Soon:
- Thapi?

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
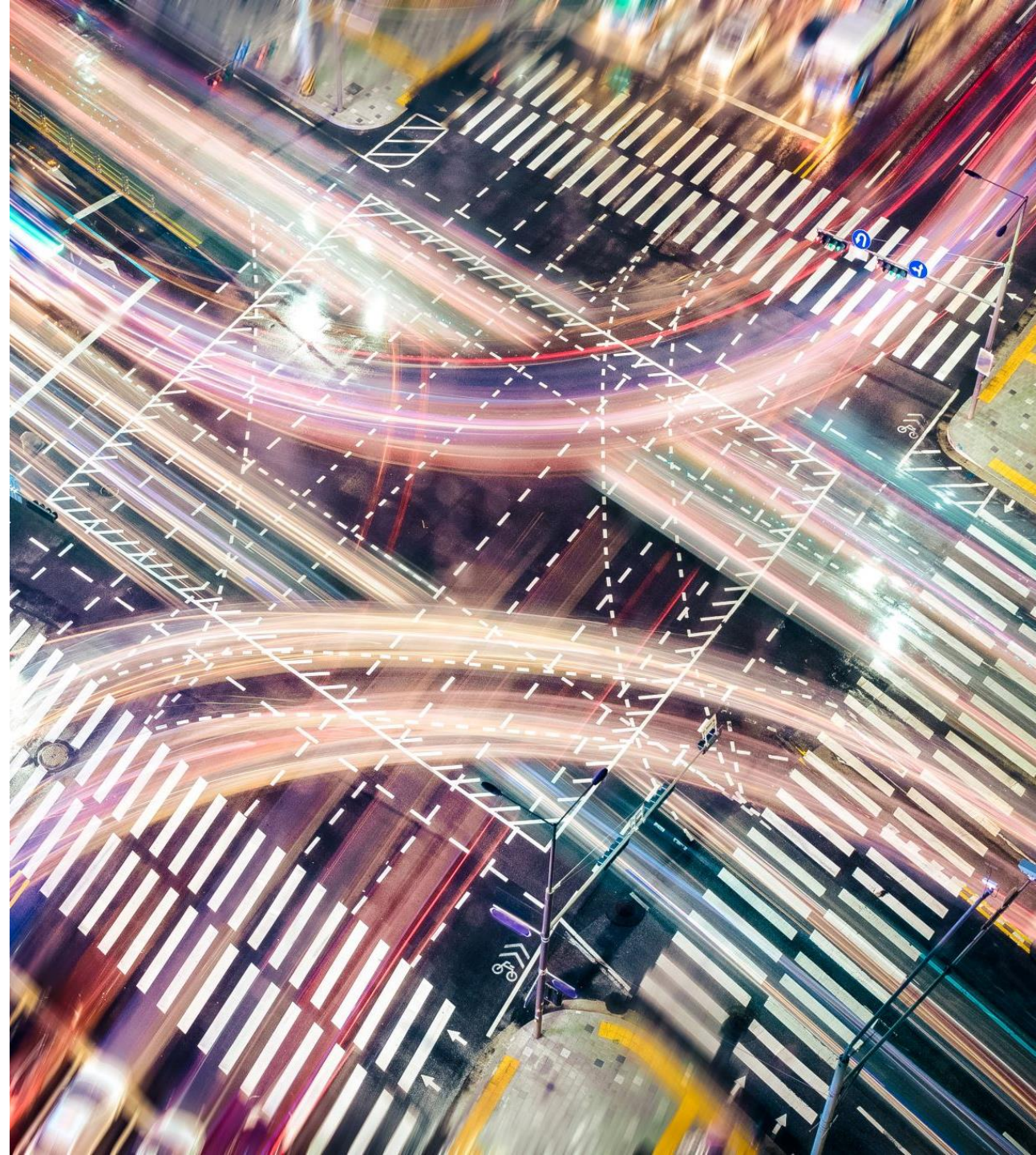
TC Cloud Frontend

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

- Highlights:
  - Work towards customization
  - Lots of design

Where do we fit into Ericsson?

- We make a tool that's used by tools to support developers and users.

- Most of our users don't know what trace compass is.

- 3 main use cases:
  - Antenna
    - Software layer (Many KPI and aggregates)
    - Hardware layer (Gantt charts)
  - Backplane: Trace Compass with LTTng
  - Support: Trace Compass with custom logs

Future Work

VSCode extension

- Customization
- Support for reports
  - Generic XY
  - Flame Graph
  - Pie Charts
  - Roofline Models
- Hardware specific views?
- Special plots:
  - Bubble
  - Sankey
- Collaborative investigations when tech is there

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

Trace Compass

- Internal Support – Ongoing
- Additional tracer support:
  - CTF2
  - Perf (intel PT)
  - SQLite DB
  - DPDK
  - Protobuf?
- Support Poly's efforts re: Partial State system
- Support Poly's efforts re: Diff Flamegraph/stats/critical path
- Figuring out ethical implications on telemetry
- **Performance improvement – On demand**

Cool Stories

Trace Compass.ai

ML Based Analyses using tsp-python-client

Thanks Kaveh

Investigation for AI assisted data driven analysis

Thanks Sai Sree

Productification of Execution Comparison

Thanks Fariba/Vlad

Integration of Apache Spark analysis

At the hack-a-thon! Thanks Reza!

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

Code Contributors

Issue Reporters

Designers

Community Maintainers

Enthusiasts

Steak Holders