



Executions Comparison with Trace Compass

Fateme Faraji Daneshgar
Research Associate

Polytechnique Montréal

DORSAL Laboratory

Agenda

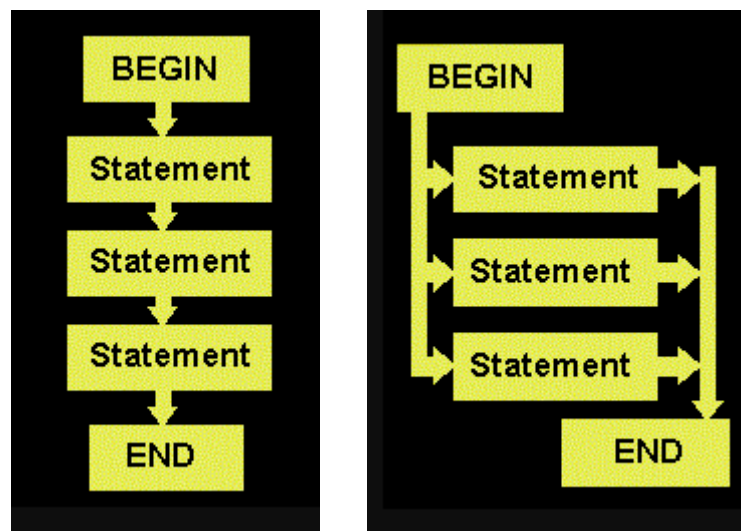
- New Features :
 - Concurrent State System
 - Concurrent Call stack Analysis
 - Execution Comparison



Concurrent State System

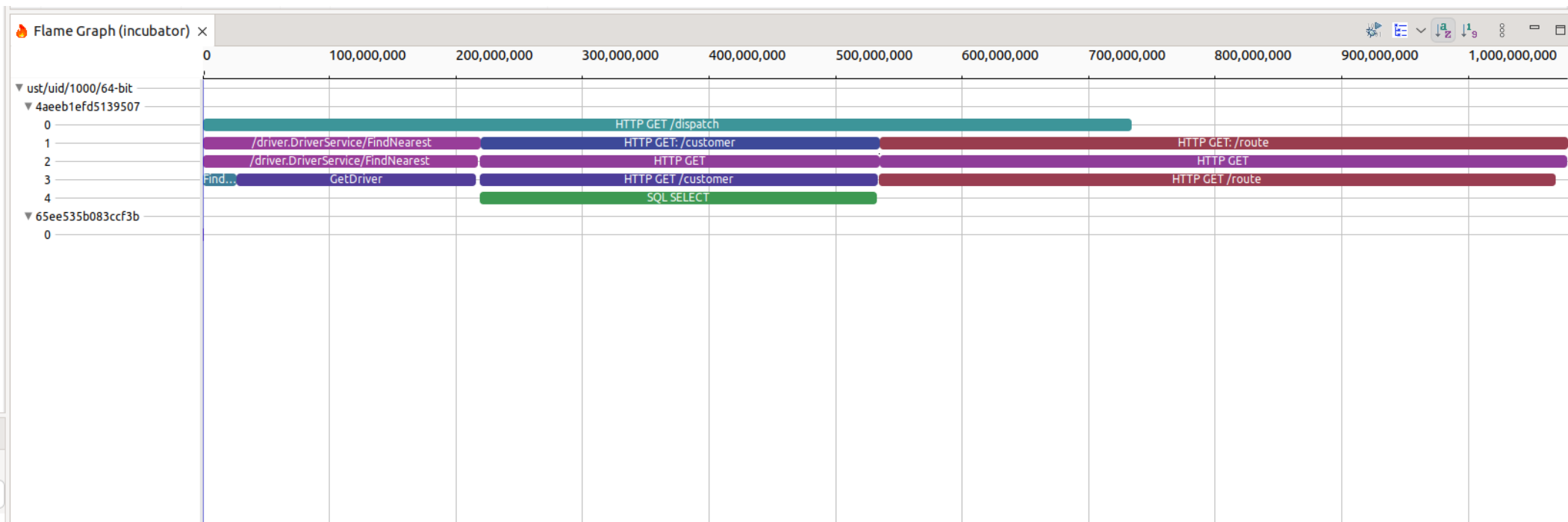
➤ TraceCompass State System

- ✓ support sequential execution traces
- ✗ concurrent executions like span traces



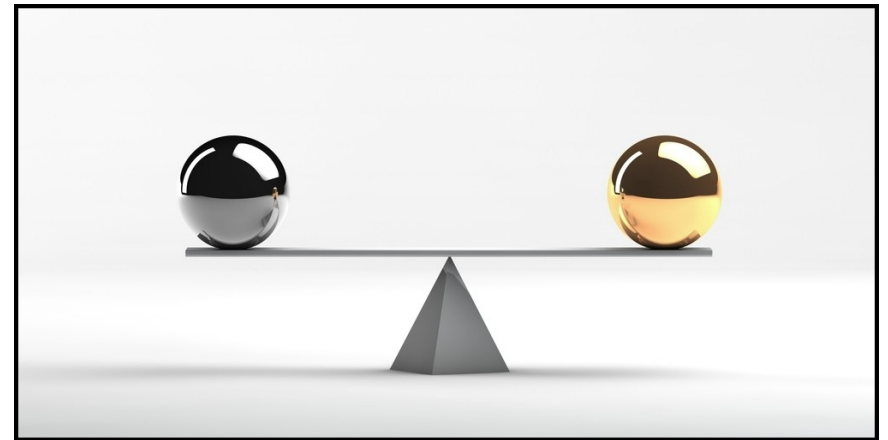
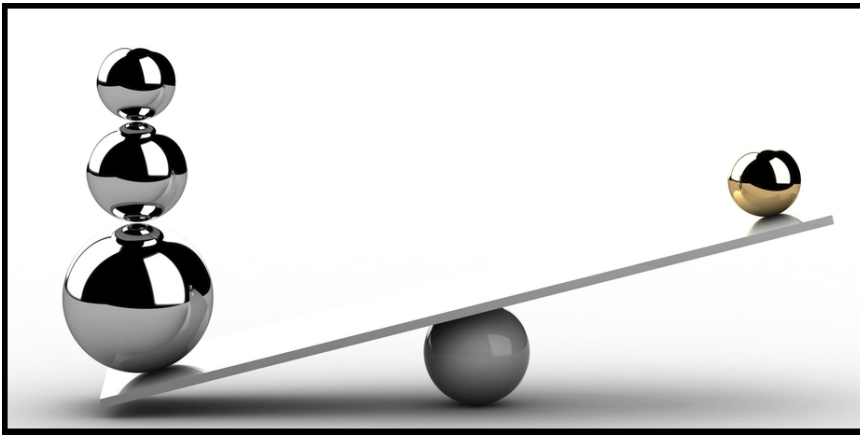
Concurrent Flame Graph

- Lttnng ust traces
- The sum of the duration of concurrent children is greater than the duration of their parent
- First version of the UI



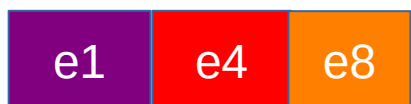
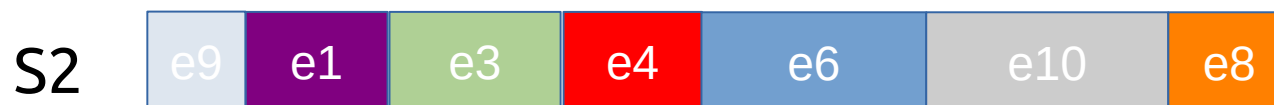
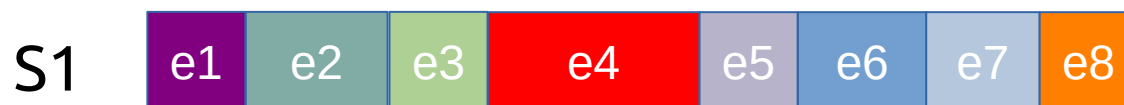
Execution Comparison

- Comparing two executions
- Groups comparison



What to compare ?

➤ Event Sequences



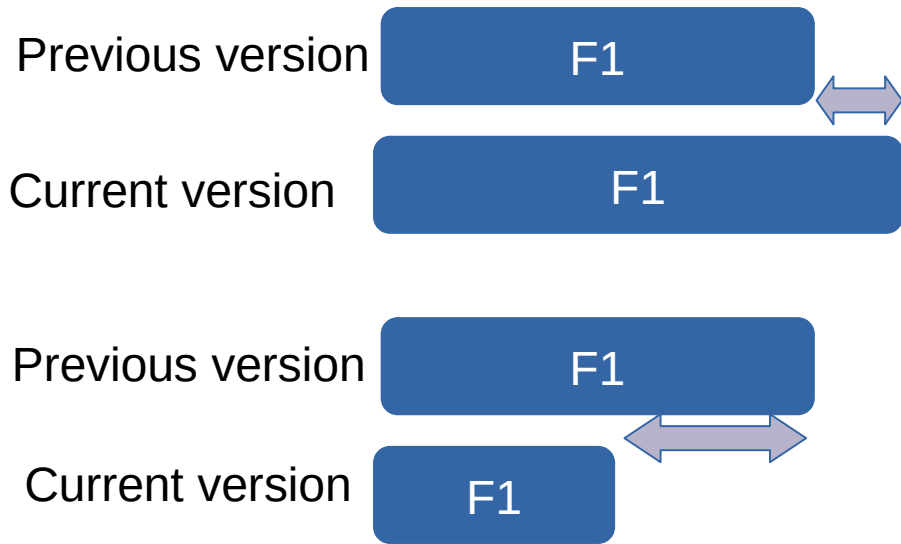
Compare longest
frequent subsequences

What to compare ? _____

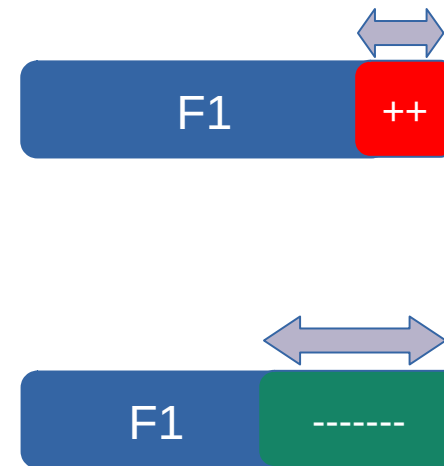
- Aggregated Metrics
 - Weighted Tree and **Flame Graph**
 - **Duration**, Self Time, Cpu Time
- Differential Flame Graph

Differential Flame Graph

Flame Graph

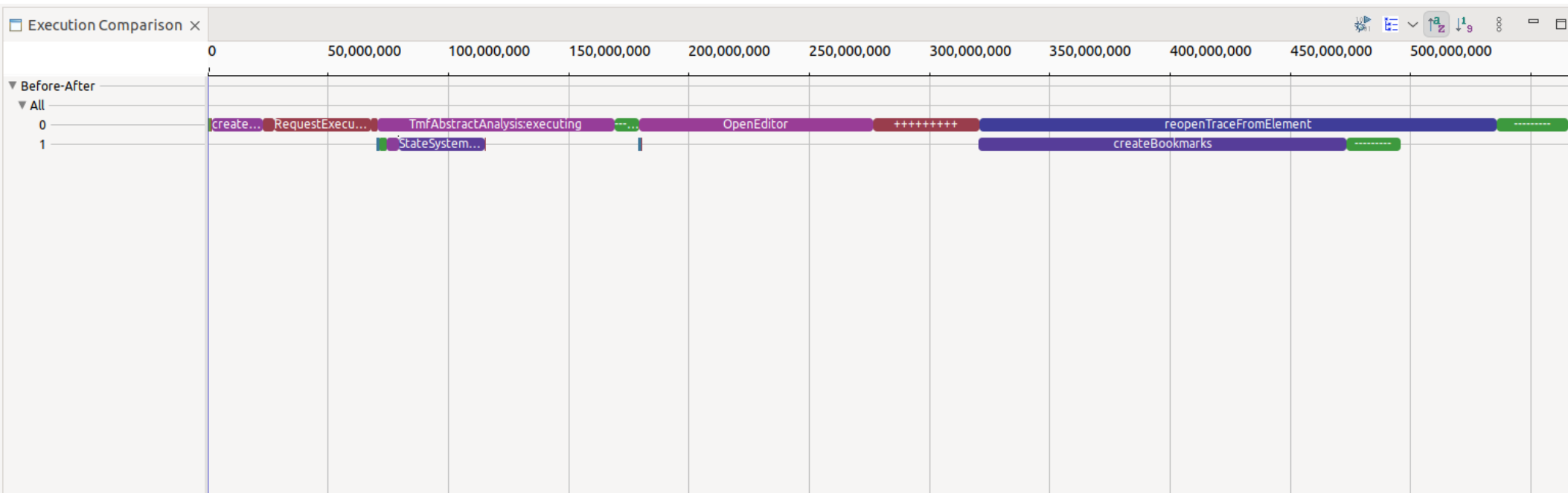


Differential Flame Graph

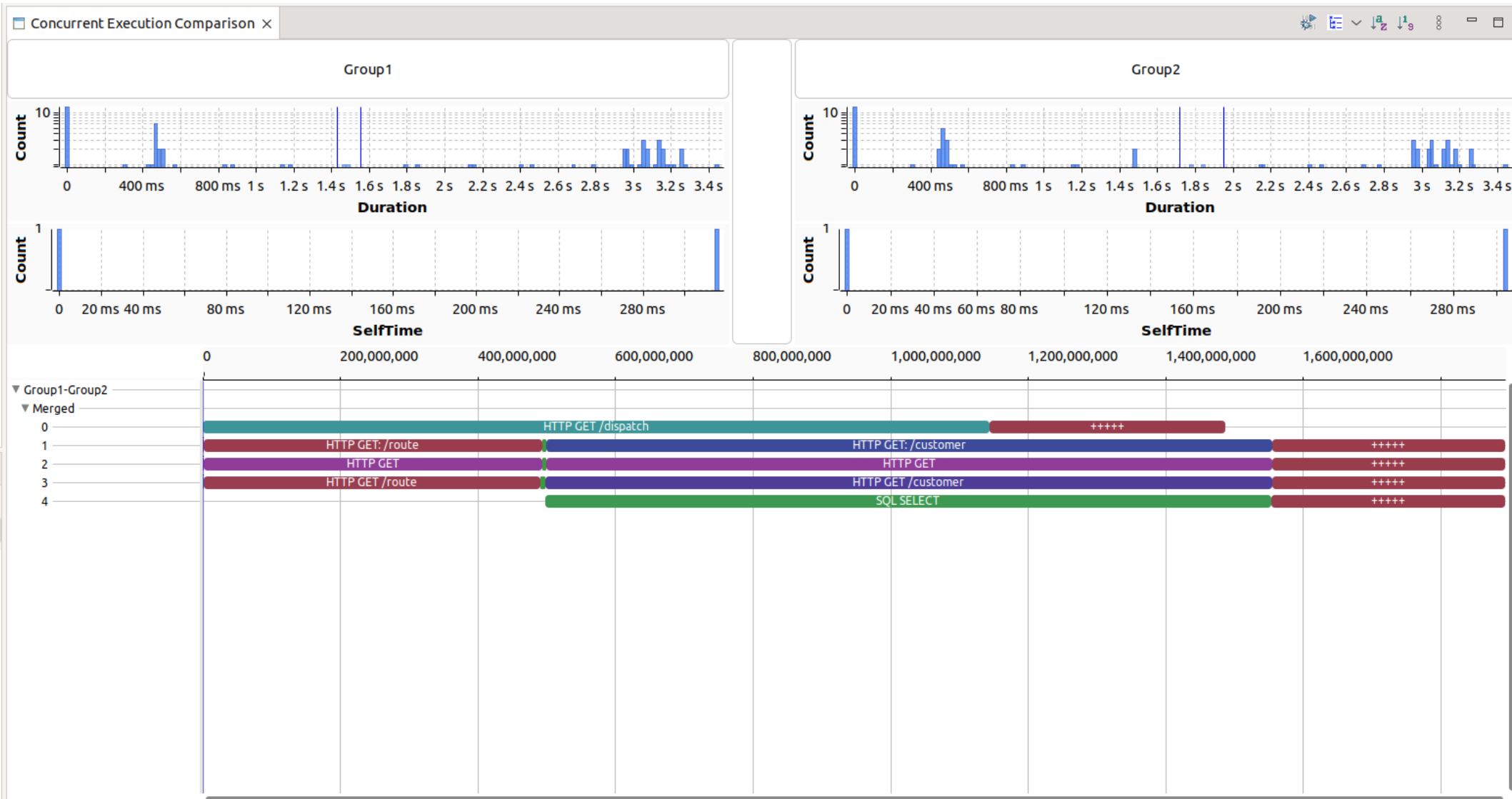


Comparing Two Traces

- Use Case : Comparing Trace compass Patches
 - Trace Event Trace of Tracecompass
 - Before and after a patch



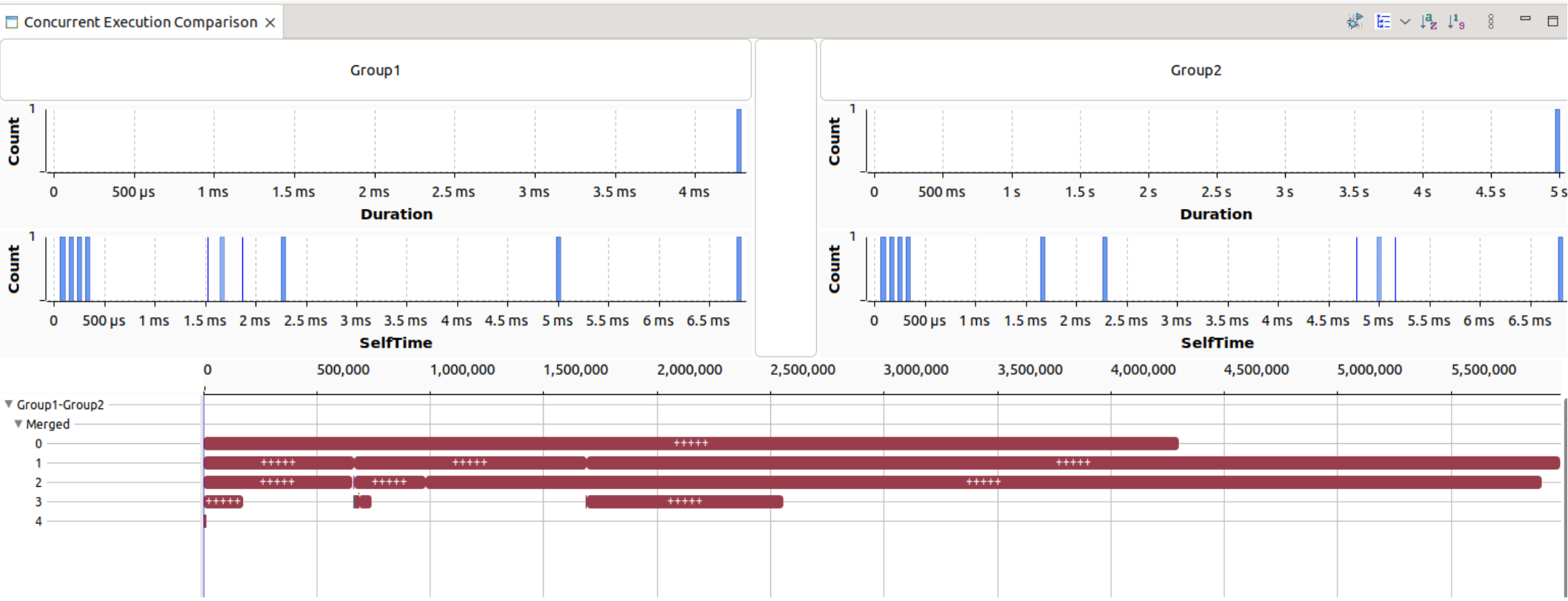
Groups Comparison



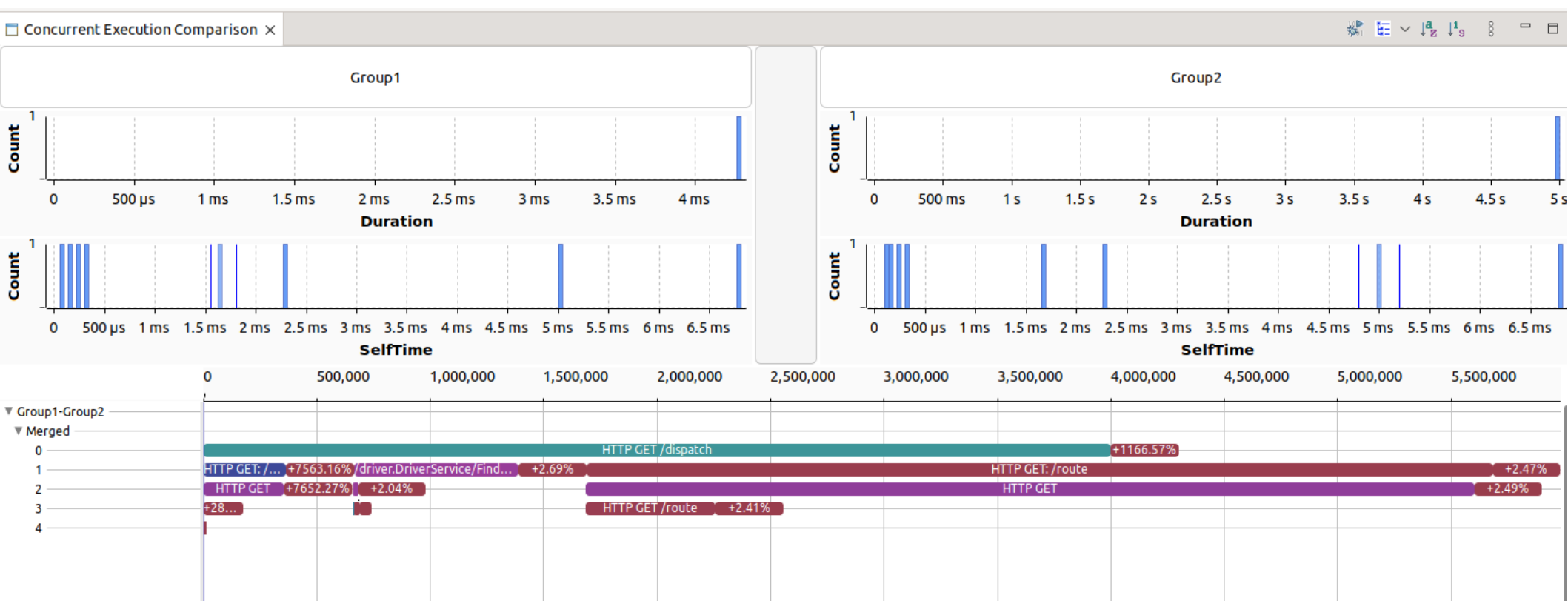
Alternative UI

Flame Graph

Differential Flame Graph

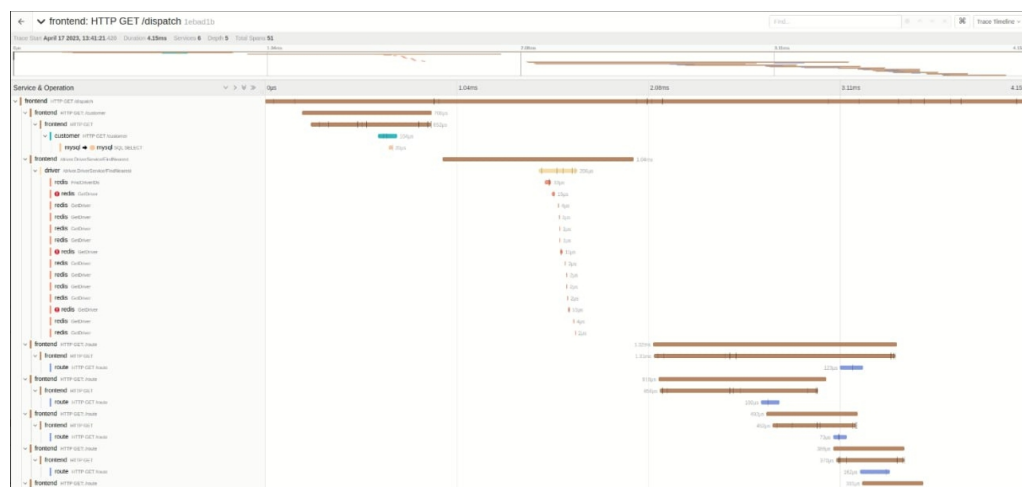


Alternative UI



Future Work

- Parameterizing differential flame graphs
 - Other metrics (self time, cpu time,...)
- Specific UI for concurrent flame graph
- Extending other analysis to support concurrency



Thank you for your attention