Agenda

— Agenda (see agenda)
— What’s new
— Trace Server
— Theia frontend
— Incubator
What's new

— Team updates:
  — Simon Marchi
  — Jean-Christian Kouame
  — Viet-Hung Phan
— Welcome Mbarka Soualhia (Ericsson Research)
New in 4.2 to 5.0++
Detection of Potential Memory Leaks
Change Default Zoom per Trace
## Removed Syscall Prefix

<table>
<thead>
<tr>
<th>Level</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Average</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>getrlimit</td>
<td>4.485 µs</td>
<td>211.614 µs</td>
<td>24.478 µs</td>
<td>45</td>
</tr>
<tr>
<td>select</td>
<td>19.598 µs</td>
<td>11.477 s</td>
<td>205.638 ms</td>
<td>66</td>
</tr>
<tr>
<td>prctl</td>
<td>8.278 µs</td>
<td>329.669 µs</td>
<td>35.010 µs</td>
<td>66</td>
</tr>
<tr>
<td>poll</td>
<td>9.096 µs</td>
<td>17.963 s</td>
<td>178.550 ms</td>
<td>66</td>
</tr>
<tr>
<td>llseek</td>
<td>5.751 µs</td>
<td>39.461 µs</td>
<td>29.843 µs</td>
<td>55</td>
</tr>
<tr>
<td>rmdir</td>
<td>73.152 µs</td>
<td>2.108 s</td>
<td>217.554 µs</td>
<td>46</td>
</tr>
<tr>
<td>statfs64</td>
<td>39.249 µs</td>
<td>522.190 µs</td>
<td>104.946 µs</td>
<td>123</td>
</tr>
<tr>
<td>lstat64</td>
<td>26.680 µs</td>
<td>264.956 µs</td>
<td>415.472 µs</td>
<td>6</td>
</tr>
<tr>
<td>set_tid_address</td>
<td>9.473 µs</td>
<td>88.533 µs</td>
<td>22.735 µs</td>
<td>4</td>
</tr>
<tr>
<td>clock_gettime</td>
<td>5.756 µs</td>
<td>411.397 µs</td>
<td>18.385 µs</td>
<td>44</td>
</tr>
<tr>
<td>sendmmsg</td>
<td>132.451 µs</td>
<td>34.521 ms</td>
<td>576.824 µs</td>
<td>3</td>
</tr>
<tr>
<td>pipe</td>
<td>33.754 µs</td>
<td>16.067 ms</td>
<td>322.867 µs</td>
<td>1</td>
</tr>
<tr>
<td>getcpu</td>
<td>3.183 µs</td>
<td>163.371 ms</td>
<td>19.977 µs</td>
<td>1</td>
</tr>
<tr>
<td>brk</td>
<td>7.780 µs</td>
<td>222.761 ms</td>
<td>2.263 ms</td>
<td>19</td>
</tr>
<tr>
<td>rt_sigprocmask</td>
<td>5.231 µs</td>
<td>218.867 ms</td>
<td>57.886 µs</td>
<td>2</td>
</tr>
</tbody>
</table>
LAMI: export to tsv/png
XY WASD navigation
Z to Zoom
Other

- Export experiments to archive
- JSON Trace format API
  - Unsorted trace
- PCAPng Support
- Data Driven Analysis improvements:
  - Documentation
  - Add "duration" support
  - MUCH better error reporting
- Support for PID and TID aspects to model
Upcoming

— Scripting support (a Genevieve and Bernd collaboration)
— Mixed mode views
— Tooltips improvement
Mixed mode views: XY + States + violin plot!
Tooltips

— Features:
  — Persistent
  — 'ctrl-c'able content
  — Navigable
  — Interactive
Trace Compass Architecture (current)
Trace Compass Architecture

Trace Compass UI
- Data Providers
  - Trace
  - State System
  - Segment store

Trace Compass Core
- Data Providers
  - Trace
  - State System
  - Segment store

Trace Visualization Client
- Data Serializer
  - Data Providers
  - Trace
  - State System
  - Segment store

Presentation Layer
- Trace Server Protocol (REST or RPC)

Business Layer
- Data Layer

Trace Server
Trace Server Protocol (TSP)

- Protocol built to handle communication between backend and frontend of trace viewer, allowing traces to reside and be analysed on the backend.
- Exchange visualization data between the backend and the frontend
- Integration with next generation IDEs (e.g. Theia or VS Code)
- [https://github.com/theia-ide/trace-server-protocol](https://github.com/theia-ide/trace-server-protocol)
tsp-typescript-client

- Provide a TSP ready client to perform your requests
- Abstract the technology used (REST, HTTP)
- NPM package available
  - Use it in any Javascript/Typescript client
  - https://www.npmjs.com/package/tsp-typescript-client
- GitHub: https://github.com/theia-ide/tsp-typescript-client
Trace server update

— Trace server based on Trace Compass core components
— Leverage all existing analysis from Trace Compass
— Change in the dataprovider API to offer more flexibility
— Available in the trace-server branch in the incubator and main repository
Theia Frontend Prototype

- Theia based prototype using the TSP
- Prototype available on GitHub ([https://github.com/delislesim/theia-trace-extension/tree/theiaCompass](https://github.com/delislesim/theia-trace-extension/tree/theiaCompass))
- Opportunity for a new UI/UX
- React
- Chart.js
- New timegraph library
Demo
Next steps

- Tree support in charts
- Configuration options (JSON)
- Tooltips on graphs
- Time formatting
- Annotations
- Improve performance
- Automatically launch the trace server when opening traces
- ... and more
Incubator and other updates

- ROS trace support!!! New Committer!
- LSP integration on filters
- Event Count Analysis
- File access view
- Trace server improvements
- Trace Event improvements
- More trace parsers:
  - Check the wiki
  - Analyses too
For our extenders and devs

— Please note an interesting feature: **future events**
  — A promise that an event will occur later
  — Useful for out of order events
  — Useful for events with durations implicit or explicit
— Give XML a new try
— Contact us (Give Feedback/Report Bugs)
— You the real MVP
Q & A
Contact

— Online
  — Mailing list: tracecompass-dev@eclipse.org
  — IRC: oftc.net #tracecompass
— Offline
  — We are still human. We talk!