



Trace Coordinator

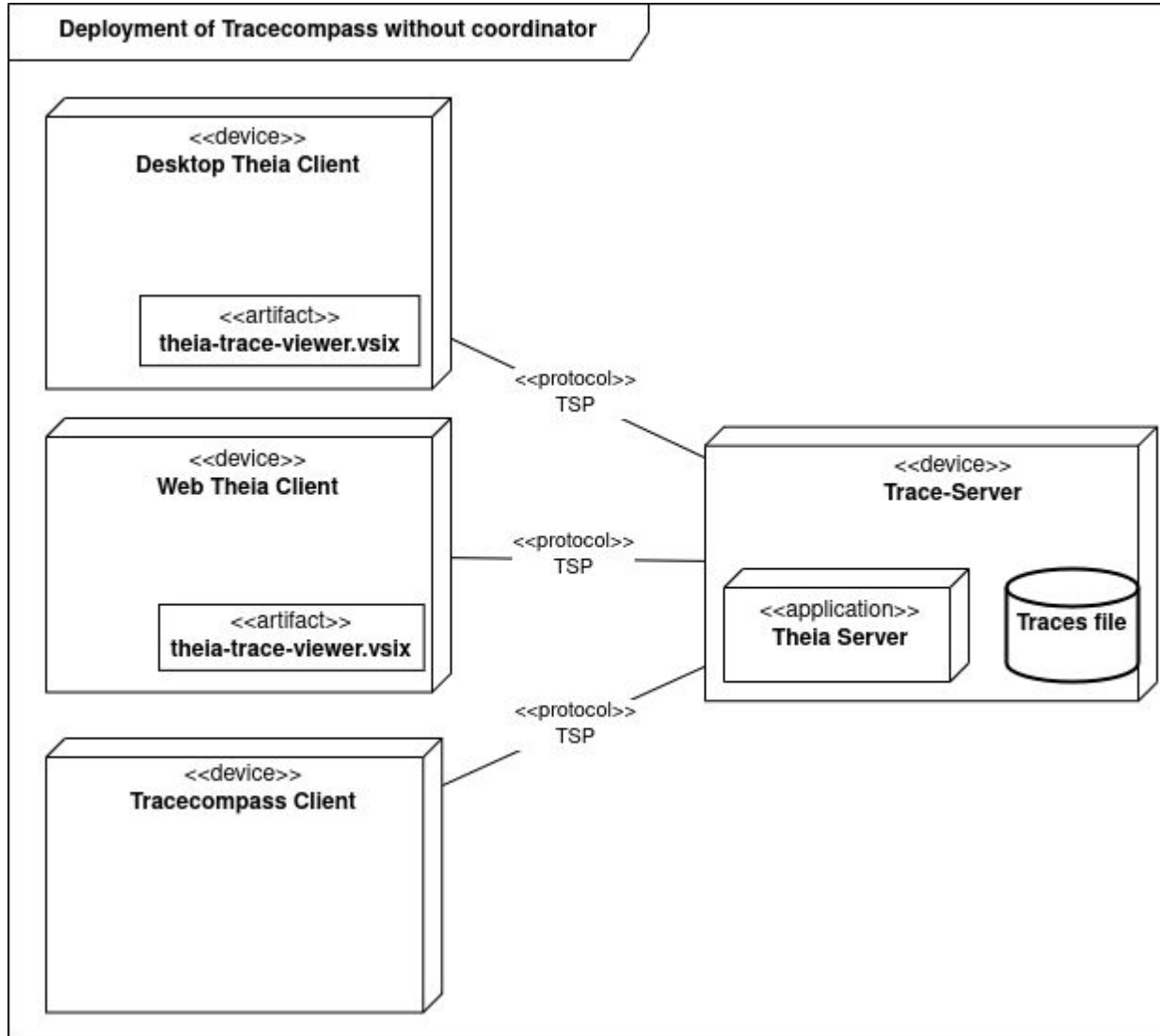
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Agenda

- Introduction
- Limitation of Trace Compass
- Use Cases
- Challenges about distributed tracing
- Related Work
- My Work
- Trace-Coordinator
- Conclusion

Introduction



- Different Clients
- Trace Server
- Trace Server Protocol (TSP)
- Traces file

Limitation of Trace Compass

- Scalability
- All trace files must be uploaded on the same node
- High Performance Computing (HPC)
- Cloud computing

Use cases

- Target use cases
 - High Performance Computing with MPI Cluster
 - Microservice with Kubernetes Cluster
- Other interesting use cases
 - Lttng Log Rotation
 - Similarity of queries
 - Client-Server

Challenges about distributed tracing

- Number and size of traces
- Connect logically the traces
 - What are the available traces
 - Where are the traces
 - How to connect the traces
- Distributed analysis
 - Aggregation over time (Horizontally)
 - Aggregation of trace data (Vertically)
 - Follow dependencies between processes (Critical Path)
 - And more
- Visualisation

Related Work

- **Distributed model for Trace Compass** (from Quoc-Han Tran)
 - Explore pattern to scale Trace Compass
 - Came up with the idea of Trace Coordinator

- **Distributed computation of critical path** (from Pierre-Fédéric Denys)
 - Parallelization of the critical path computation

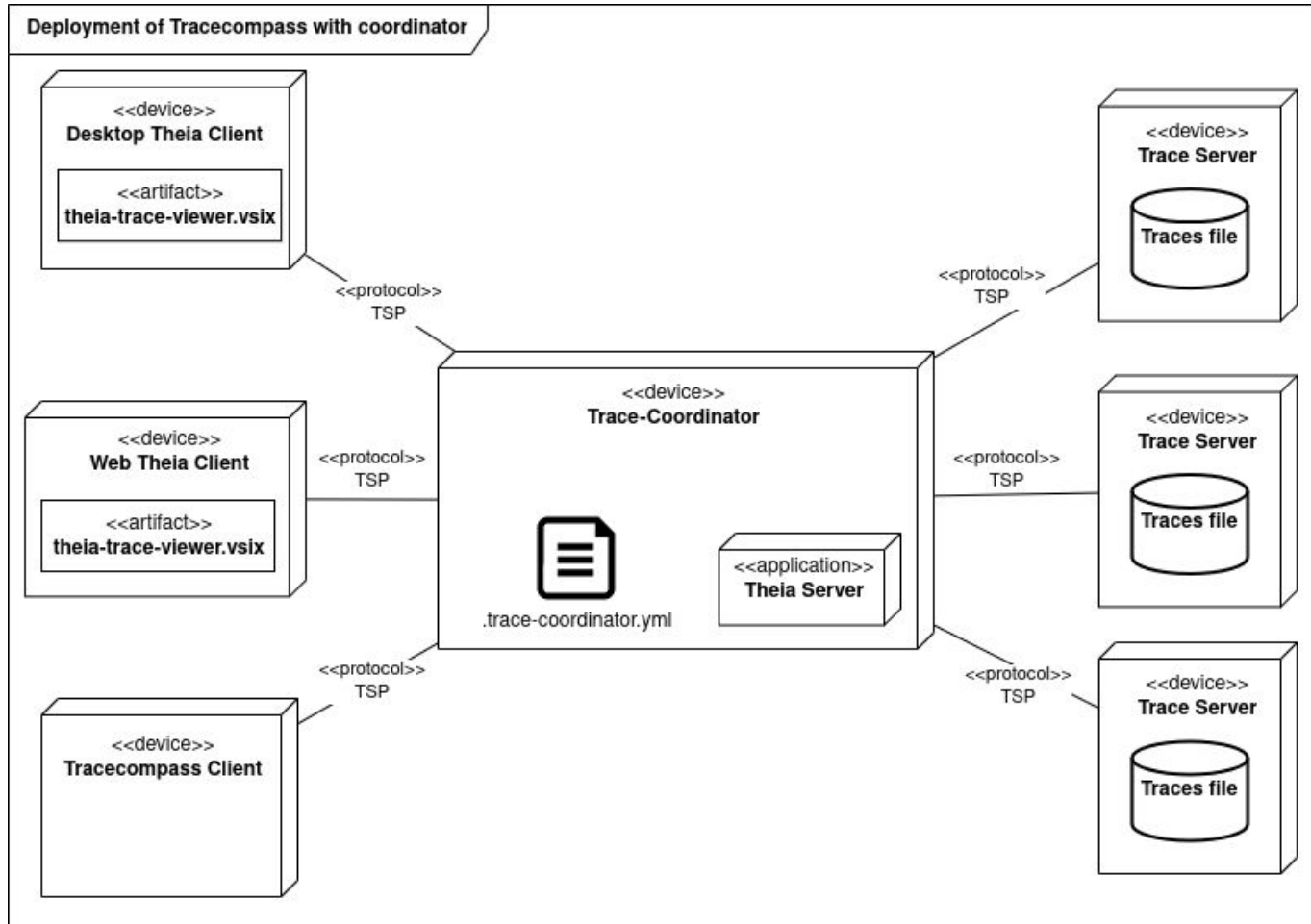
(*related work done by Pierre-Frédéric and Quoc-Han)

My Work

- Trace Coordinator
 - Connect logically the traces
 - Implement distributed analysis
 - Visualisation

(*related work done by Pierre-Frédéric and Quoc-Han)

Trace Coordinator (Work In Progress)



- Different Clients
- Trace Server Protocol (TSP)
- Many Trace Servers
- Trace Coordinator
- Distributed trace files

Conclusion

- Extends parallelisation to all kinds of analysis
- Trace Coordinator should support TSP
- Connect the trace with metadata over a configuration file

Q&A

Thank you for listening!