

Cognitive edge-cloud with serverless computing

Enabling the Stateful FaaS Agent Pattern in EDGELESS

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ML4ECS workshop @ HiPEAC 2026 – Krakow PL



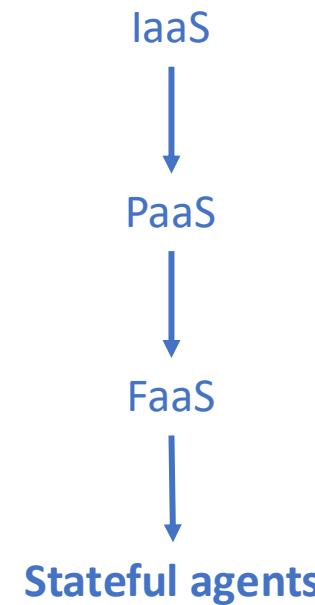
National Research Council of Italy

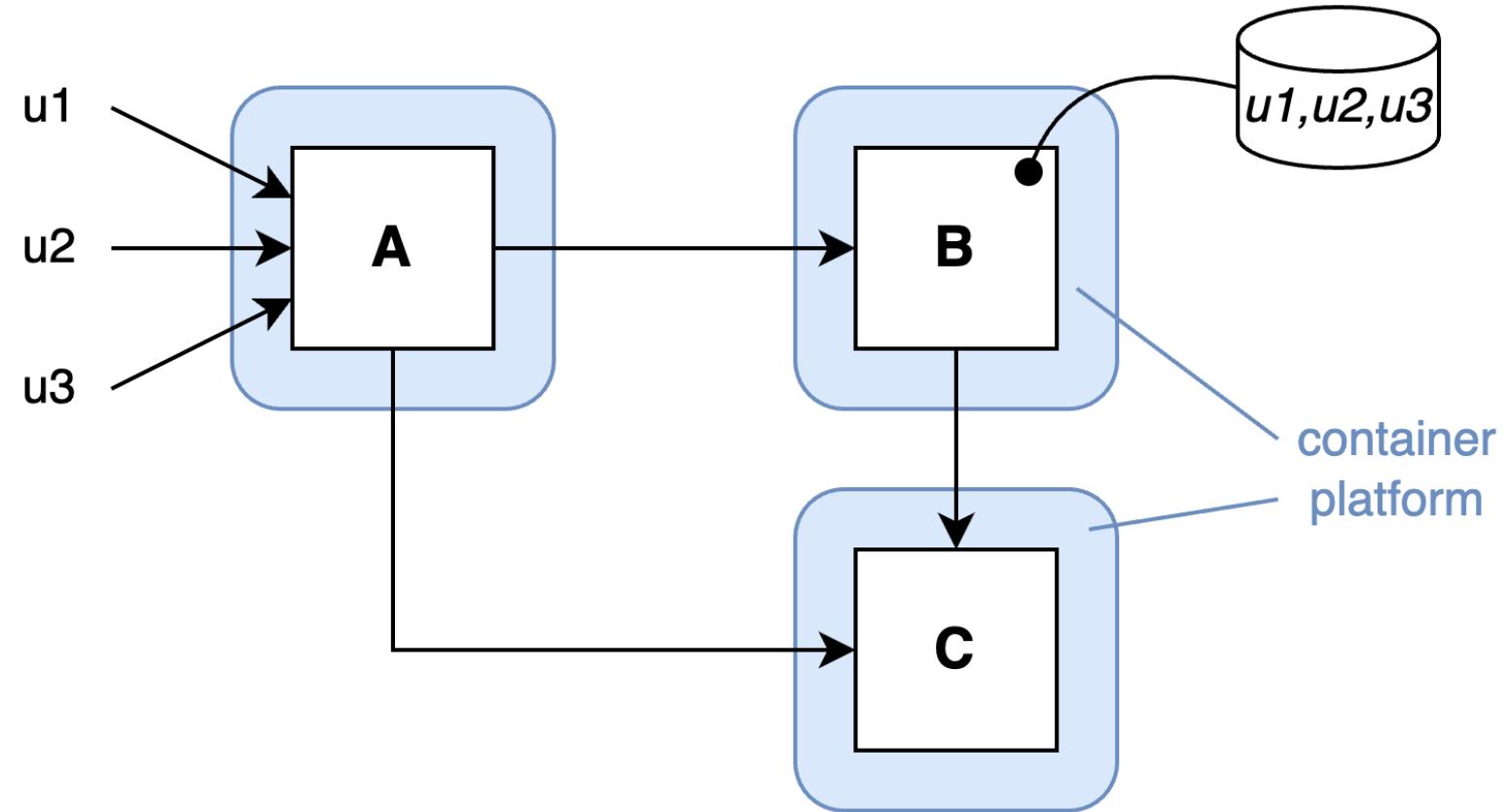




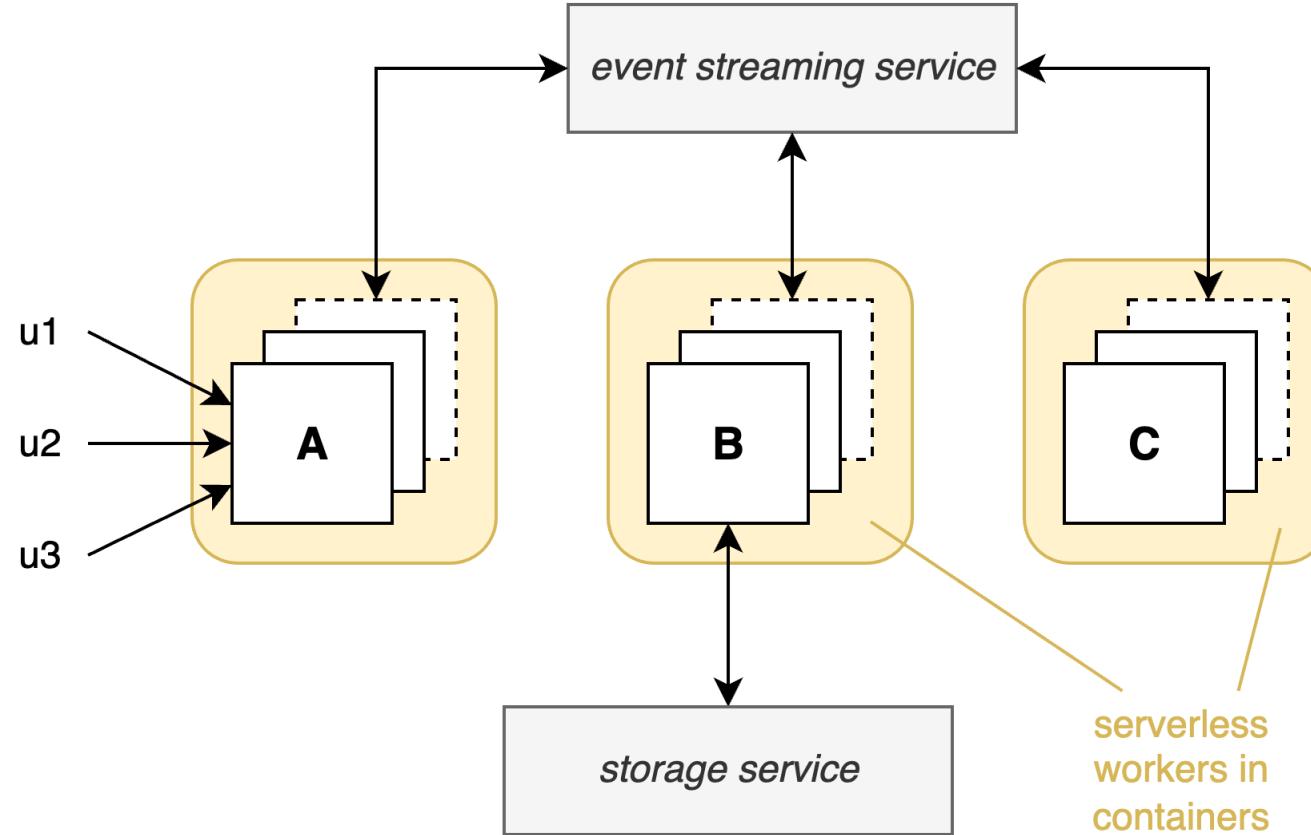
What's the Stateful FaaS Agent Pattern?

The next evolution of edge-cloud models

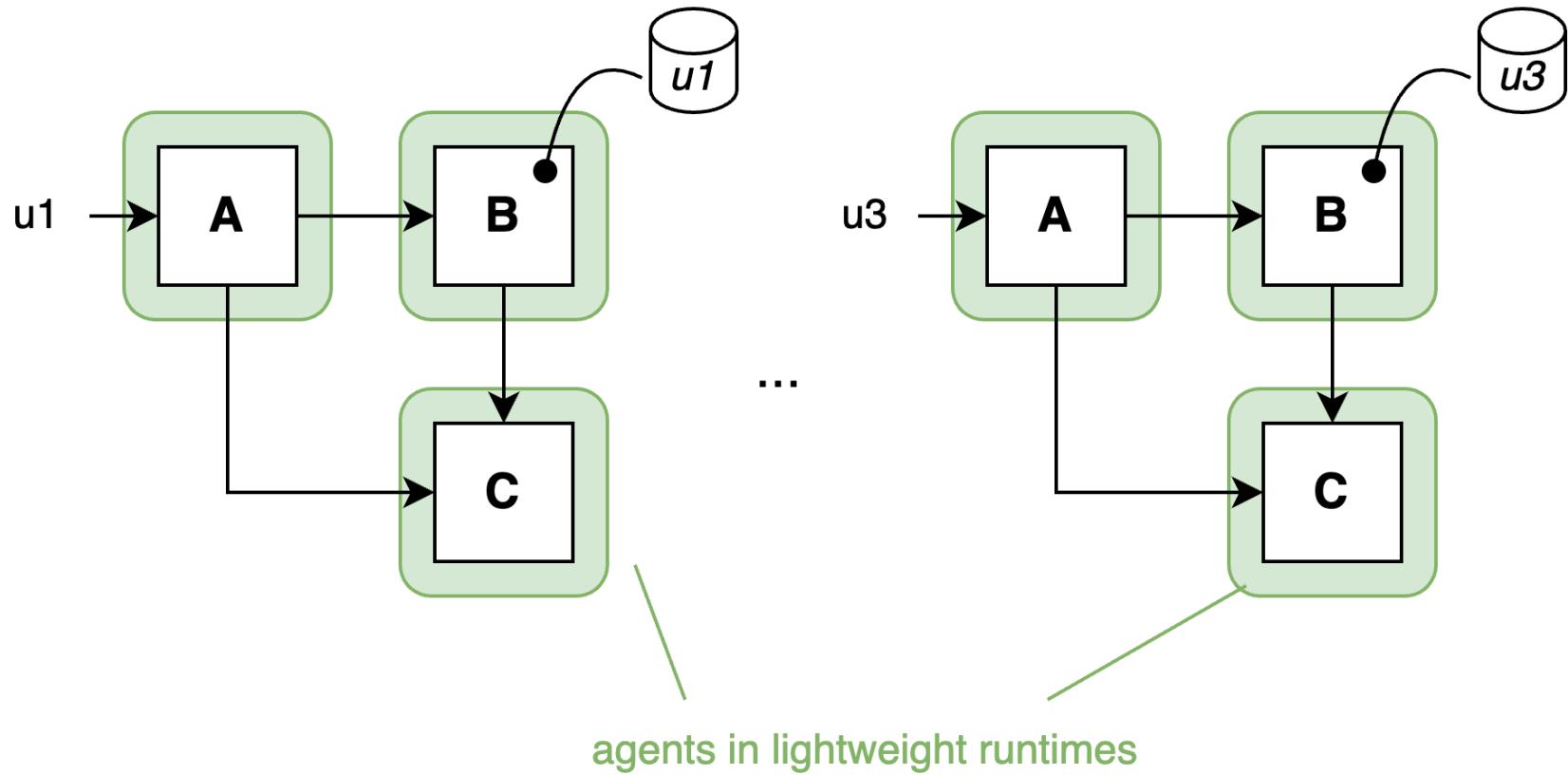




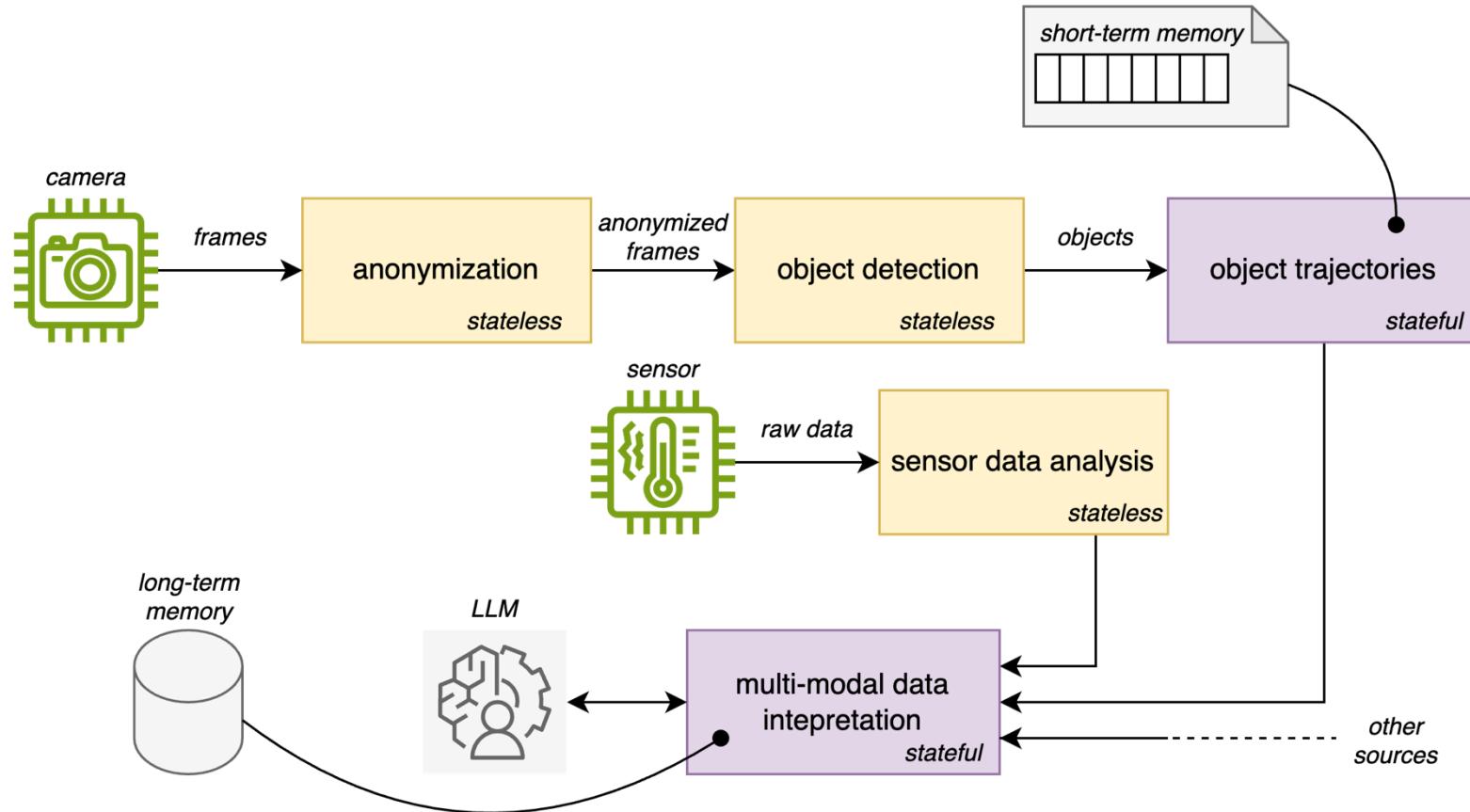
Serverless computing



Stateful (FaaS) agents



An example service





Our contribution

A new experimental platform

- **Clean-slate OSS project**

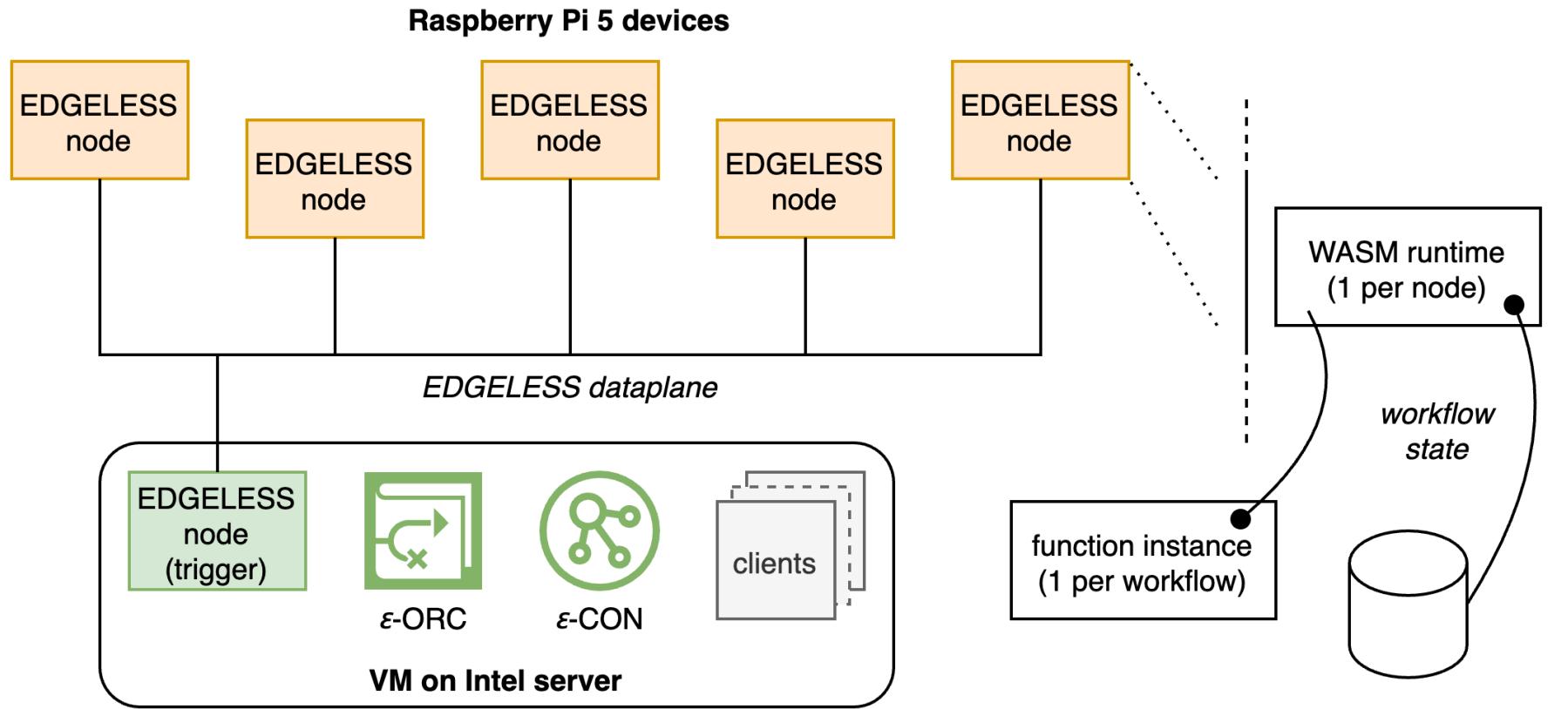
- Developed in a modern programming language (Rust)
- Minimal set of dependencies (gRPC, WebAssembly)



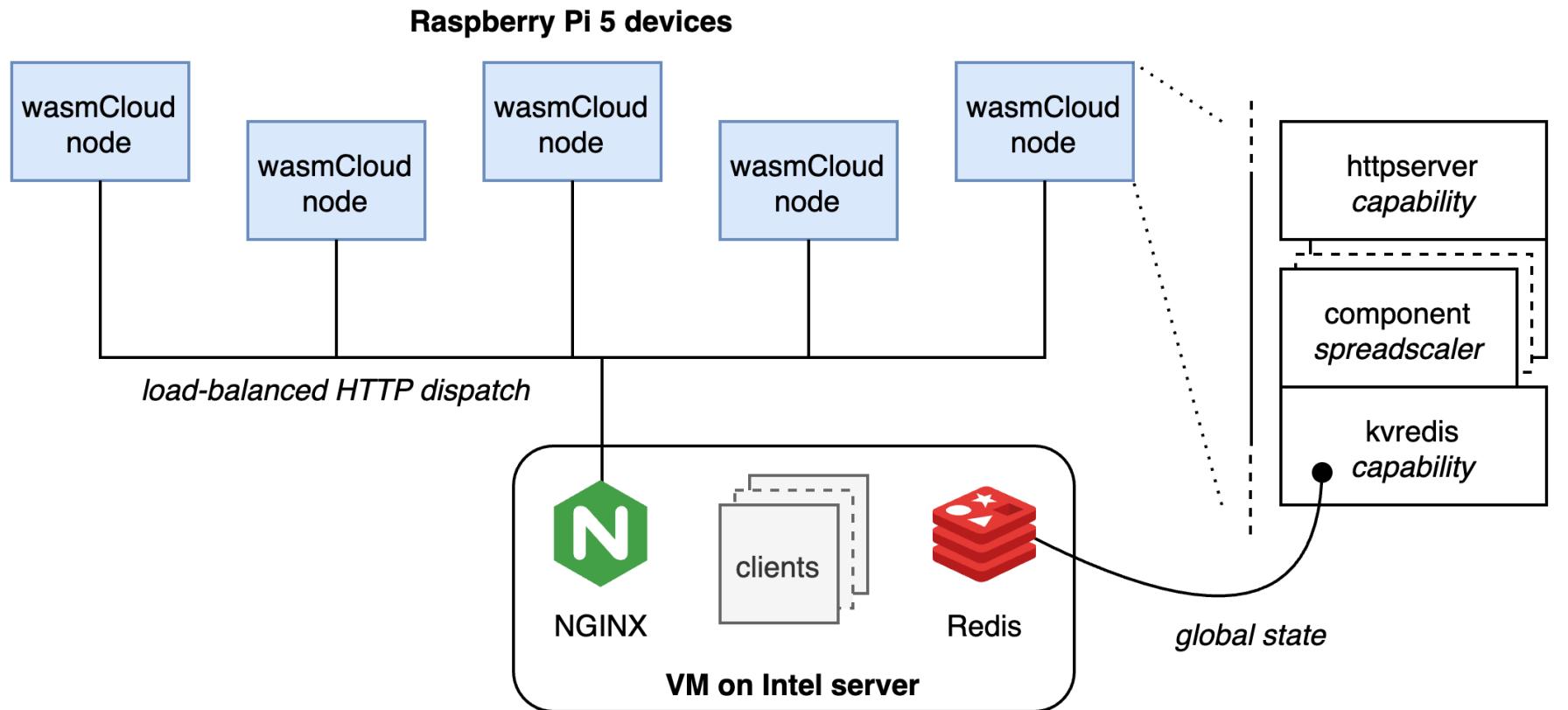
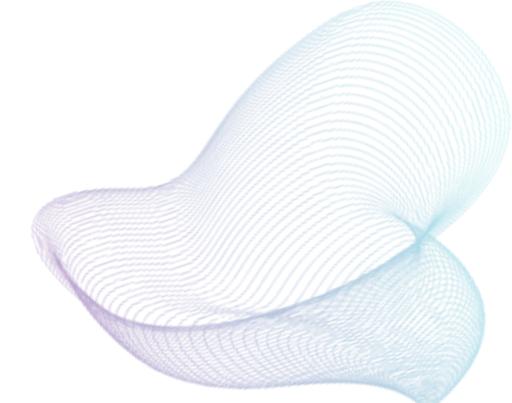


Results

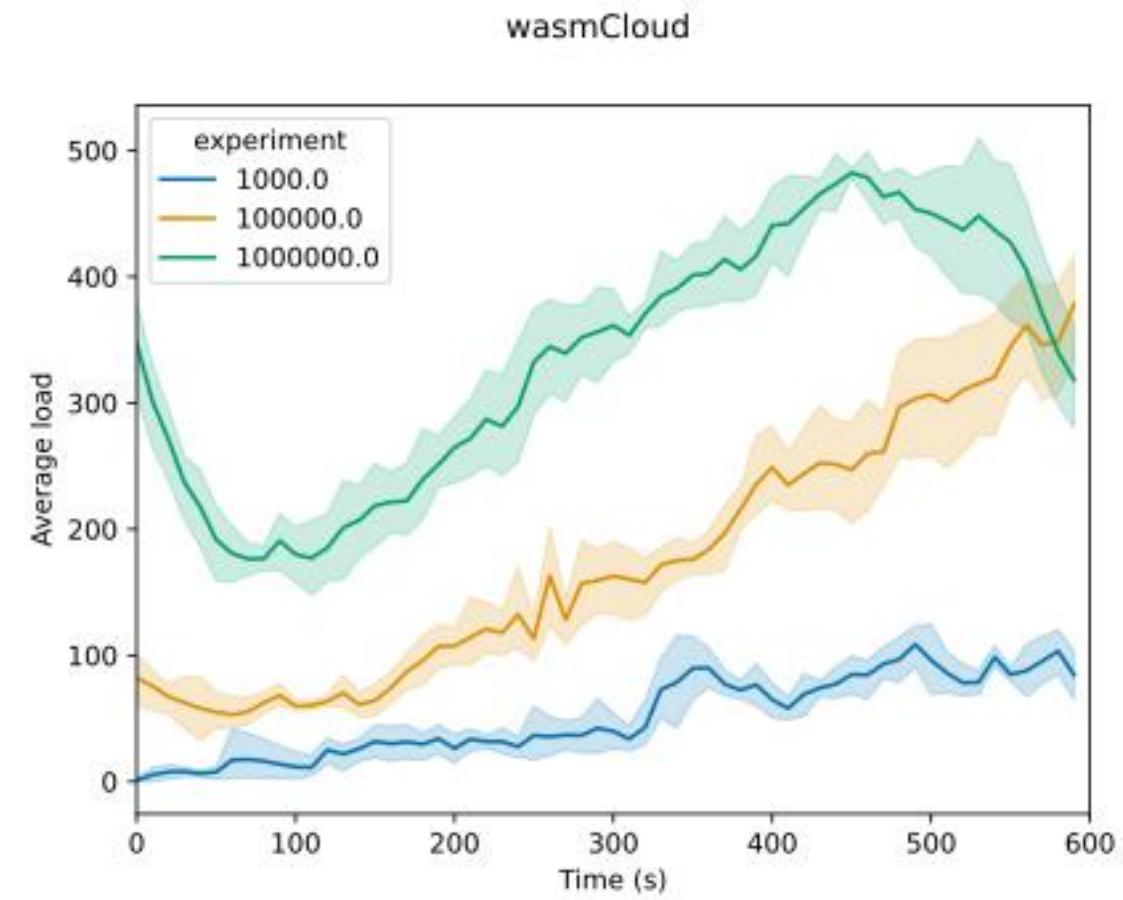
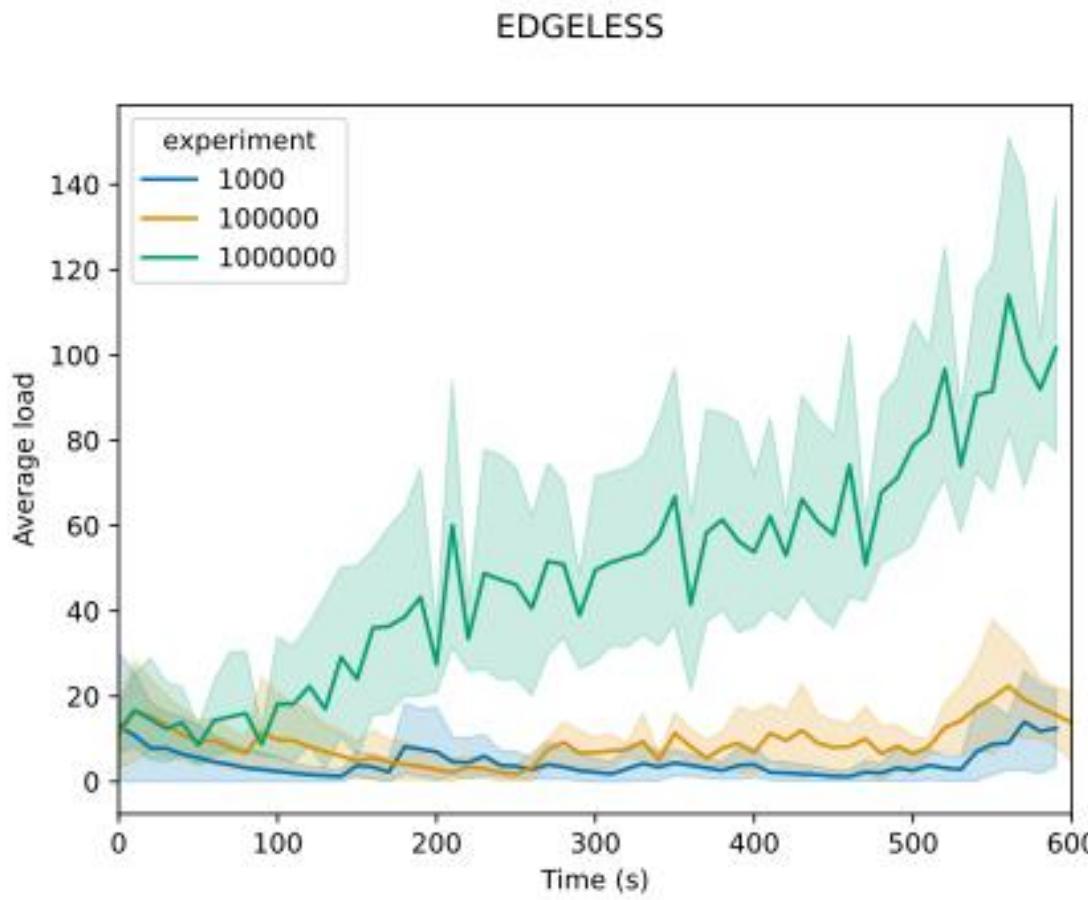
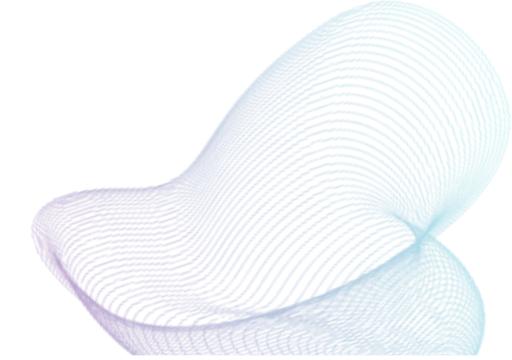
A small-scale deployment with EDGELESS...



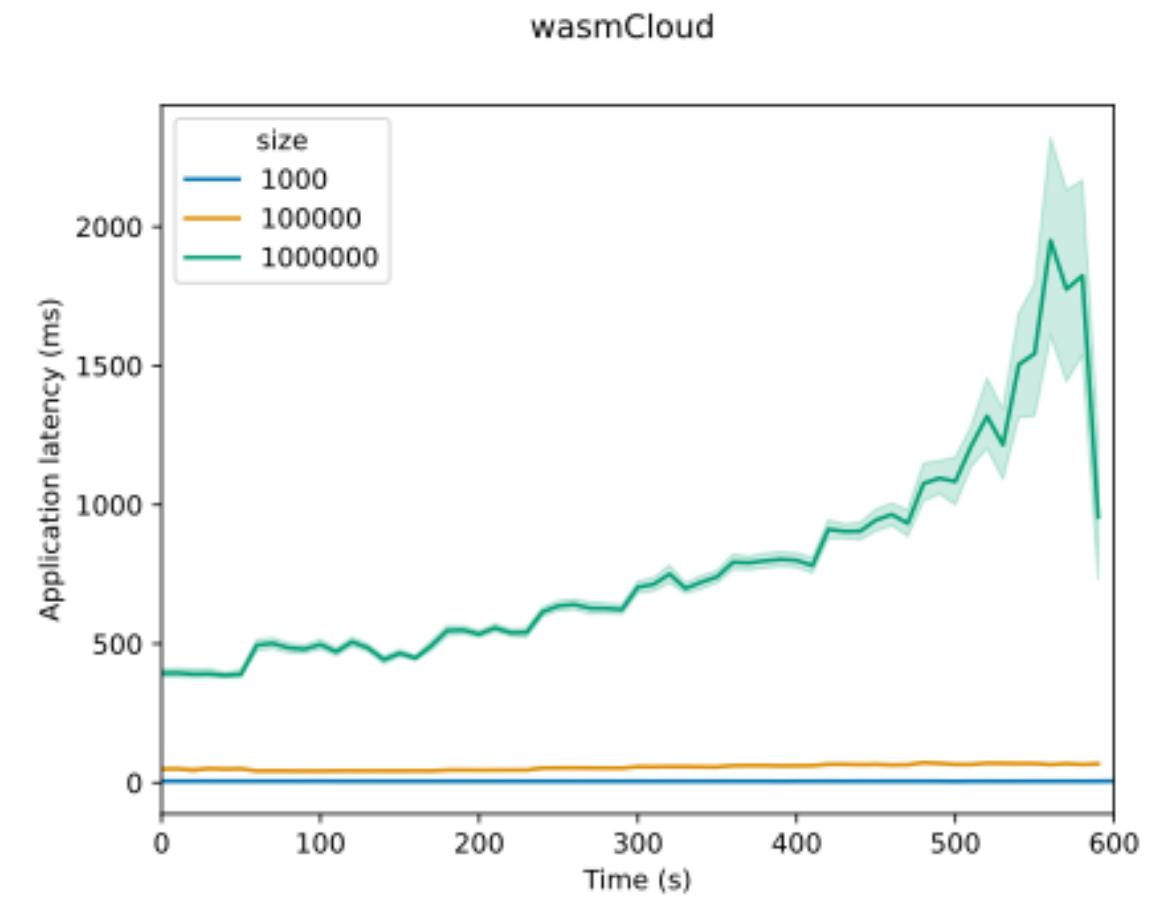
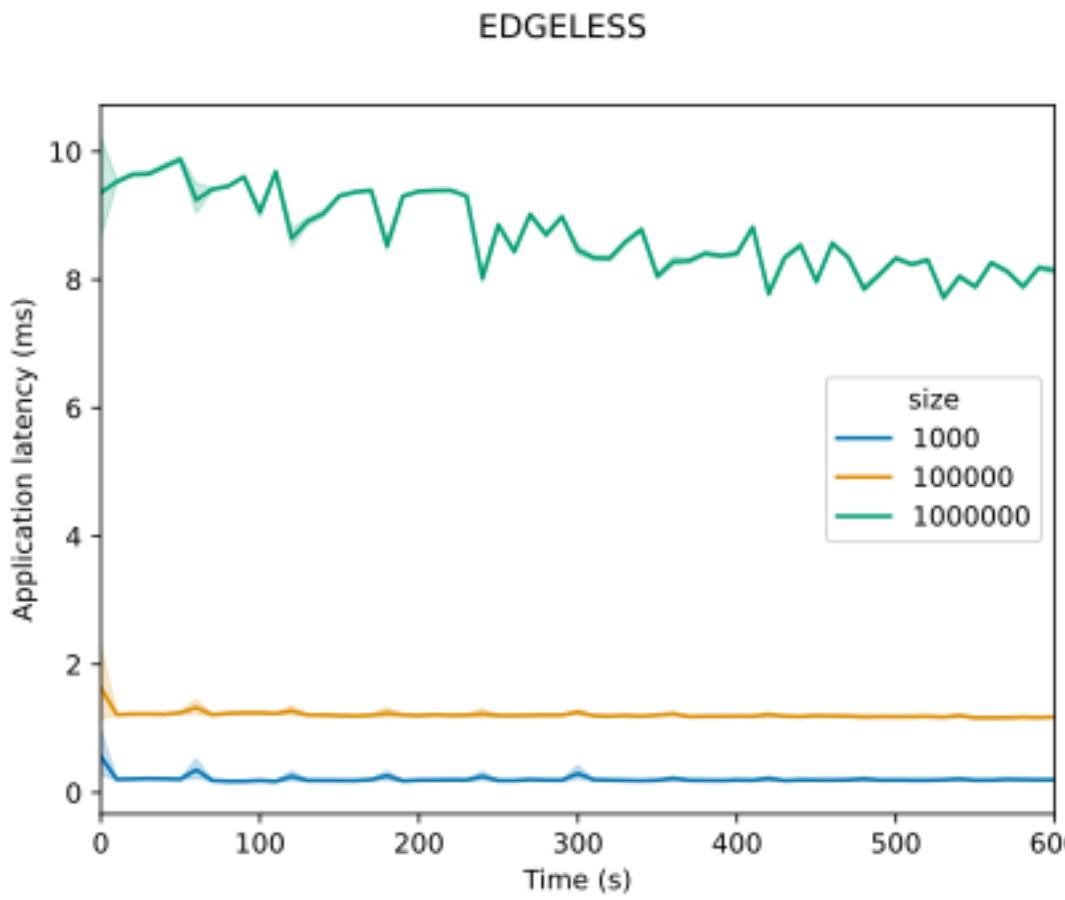
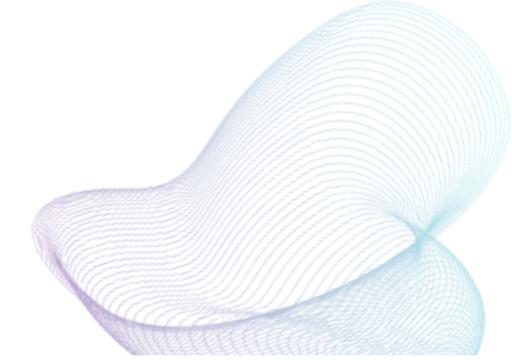
...and wasmCloud

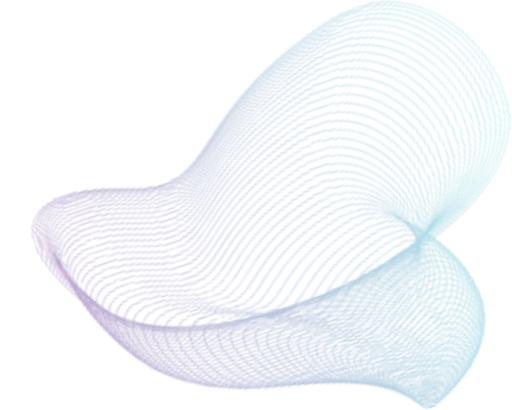


Average load



User latency

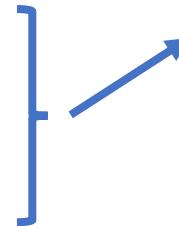




Conclusion

Looking ahead

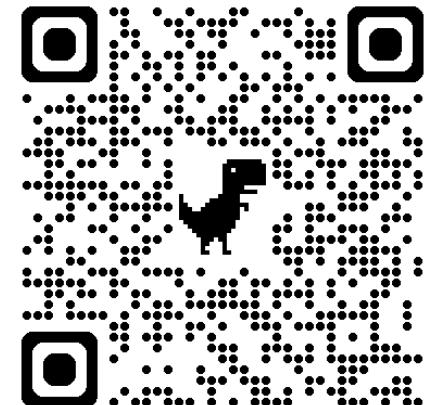
- EDGELESS is not (only) deliverables & scientific publications
- Long-term sustainability plans, leading to the **creation of a community**



<https://edgeless-project.eu/>



<https://github.com/edgeless-project/edgeless>





Thanks for your attention