

FaaS: Think Outside the Container

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Abstract

The Function as a Service (FaaS) paradigm promises truly elastic computation in the cloud, but modern platforms struggle to deliver. FaaS systems have largely chosen the container for an isolation primitive, despite container creation taking many orders of magnitude longer than process creation. We present an alternative sandbox for function execution: running each function as its own unikernel. These unikernels neatly condense all of the state necessary to execute a function, enabling a lightweight snapshotting mechanism. Snapshots can be used to generalize caching strategies available to the FaaS system, and hooks can be exposed to the user.

Speaker Bio

Tommy Unger is a doctoral candidate at Boston University. His work focuses on managing computational state: promoting the process address space to a first class data object. He hopes this view is more amenable to memoization, caching, and the online optimization of distributed systems.