On the State of Serverless Computing

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OpenLambda

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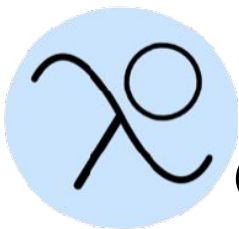
Outline

Academic Perspective

- New Problems
- Evaluation

Developer Perspective

Academic & Developer Cooperation

Academic Perspective

- New challenges in scheduling
  - Global load balancing & fair resource allocation

- Increased importance of data locality & management
  - Lambdas are stateless, but not all applications can be

- Security concerns

- Pushing the limits of containers
  - Something else?

Cloud provider has more **control** & **information** than ever before

The Evaluation Challenge

- How can we evaluate at scale?

- What metrics should we evaluating?

- What do large applications built on serverless look like?
  - What types of applications are important?

To understand what's important in serverless,

we need to build a **community**

Developers' Perspective

- Only pay for resources they actually use

- Remove the overhead of configuring a server, network, etc.

- Simplify deployment

- Execute in response to events

Performance shouldn't be our only focus

Looking Forward

Reconcile the goals of researchers & developers

performance+

- Package support (Pipsqueak)

- Fine-grained accounting

- Detailed logging & traces

- ...

Thank you!