On the State of Serverless Computing

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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!