IoT and Serverless

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- Serverless computing ripe to satisfy emerging IoT workloads
  - Voice assistants (Alexa, etc), smart sensors (cameras, etc), smart environments (smart homes, etc)
  - Scale required by workloads will be major problem

**Issue 1: Where to run serverless workloads?**

- Which location? On device, at edge, or in cloud? CPU/GPU/FPGA/ASIC?
- With location hierarchy: caching is a natural solution
  - Why recompute same function input?
  - How to understand when nonequivalent inputs give same output?
  - Can this be done across customers in privacy-preserving way? Across FaaS providers?
  - Who builds caching service? 3rd party? App developers? Serverless providers?

**Issue 2: How to provide IoT and serverless security?**

- New serverless attacks? DDoS doesn’t bring down system, but instead causes financial damage