Performance Evaluation of Serverless Frameworks

Serverless computing is a cloud computing paradigm that separates infrastructure management from software development and deployment. It offers advantages such as low development overhead, fine-grained unmanaged autoscaling, and reduced customer billing. From the cloud provider's perspective, serverless reduces operational costs through multi-tenant resource multiplexing and infrastructure heterogeneity.

However, the serverless paradigm also comes with its challenges. First, a systematic methodology is needed to assess the performance of heterogeneous open-source serverless solutions. To our knowledge, existing surveys need a thorough comparison between these frameworks. Second, there are inherent challenges associated with the serverless architecture, specifically due to its short-lived and stateless nature.

Requirements:

- Familiarity with Kubernetes
- Basics of computer networking

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