FaaSPR: Latency-oriented Placement and Routing Optimization for Serverless Workflow Processing

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***Abstract*—**

***Index Terms*—Serverless, scheduling, placement and routing.**

I. Introduction

Serverless and pod resource management in Serverless
overhead: resource utilization and cold start
current solution and problem: pallete and faascache (other sota)
challenge:
technique: mention inplace scaling in k8s
performance
contribution

II. Background and Motivation

A. resource management in Serverless

B. Job scheduling in Serverless

add demo experiment here, sota -¿ overhead detail

III. FaaSPR Overview

Instance placement based on heuristic algorithm

job scheduling based on dynamic instance resizing

IV. FaaSPR Deisgn

A. Instance placement based on heuristic algorithm

B. Cold-start-free hybrid placement updating

C. job scheduling(todo: name)

V. Implementation

VI. Evaluation

A. Evaluation Setup

Benchmarks.

Workload generation.

Cluster configuration.

Baseline.

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B. Benefits of FaaSPR

Comparison under different benchmark number.

Comparison under different resource distributions.

Performance analysis.

C. Scalability

Larger-scale cluster experiment.

System overhead.

D. Effectiveness of FaaSPR

Technique effectiveness.

Parameter effectiveness.

VII. Related Work

VIII. Conclusion

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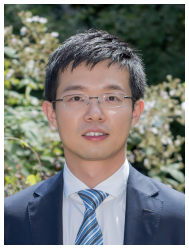

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