

Discussion Leader Papers

BRENDAN O'HANDLEY

ACM Reference Format:

Brendan O'Handley. 2022. Discussion Leader Papers. 1, 1 (March 2022), 1 page. <https://doi.org/10.1145/nnnnnnnn.nnnnnnnn>

1 Multilevel Observability in Cloud Orchestration

The topic of this paper is observability around cloud orchestration and microservices.¹ Cloud infrastructures can provide resource sharing between many applications and usually can meet the requirements of most of them. However, in order to enable an efficient usage of these resources, automatic orchestration is required. The authors built an observability tool that handles challenges of latency, high bandwidth and high computational power. The authors are reputable as Dimitra Simeonidou FREng, FIEEE, from the University of Bristol has an h-index of 46 since 2015.

The authors perform two experiments based on a case study of video capture and processing. They emulate a set of services that capture videos from multiple cameras, classify the videos, and process the videos. In the first experiment the FPS for the video are constant and the second experiment varies the FPS. The processor has a number that must be scaled based on images from the videos. The first experiment tests how the application creates a metric to scale the processors to increase the number of instances. The second shows how the application creates a mean of latency metric and passes this information allowing the processor to be scaled. The then analyze each test for latency, bandwidth and computational power. The authors show that their application handles latency, variations in bandwidth and variations in computational power needs.

References Cited

¹ R. Picoreti, A. Pereira do Carmo, F. Mendonça de Queiroz, A. Salles Garcia, R. Frizera Vassallo, and D. Simeonidou. Multilevel observability in cloud orchestration. In *2018 IEEE 16th Intl Conf on Dependable, Autonomic and Secure Computing, 16th Intl Conf on Pervasive Intelligence and Computing, 4th Intl Conf on Big Data Intelligence and Computing and Cyber Science and Technology Congress(DASC/PiCom/DataCom/CyberSciTech)*, pages 776–784, 2018.

Author's address: Brendan O'Handley.

Permission to make digital or hard copies of all or part of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. Copyrights for components of this work owned by others than ACM must be honored. Abstracting with credit is permitted. To copy otherwise, or republish, to post on servers or to redistribute to lists, requires prior specific permission and/or a fee. Request permissions from permissions@acm.org.

© 2022 Association for Computing Machinery.

Manuscript submitted to ACM