Call for papers

Final Extended deadline (Hard Deadline) 8/04/2021

FRAME: The 1st Workshop on Flexible Resource and Application Management on the Edge

Affiliated with the 30th ACM International Symposium on High-Performance Parallel and Distributed Computing (HDPC) 2021

Website of the workshop: https://www.accordion-project.eu/frame2021

Cloud computing architectures and related paradigms are gaining an ever increasing degree of popularity and interest both from the industrial and scientific community. They allow customers to "outsource" the management of physical resources by renting a variable amount of resources according to their actual needs, in a pay-per-use fashion. With the emergence of edge computing infrastructures, new problems and exploitation opportunities surface. Cloud and edge infrastructures can work together to fulfill requirements from a variety of applications, composing the so-called Cloud/Edge Continuum. Clouds must provide appropriate levels of performance to large groups of different users, whereas Edge resources act as a first layer of computing capacity that is closer to the user, reducing the service latency and increasing the exploitable portion of network bandwidth.

Edge infrastructures typically belong to different administrative domains, are resource constrained with respect to central Clouds, and are composed of a very heterogeneous set of resources, introducing new challenges in the fields of security, orchestration and resource management. From a business point of view, organizations can benefit from the distributed nature of Edge computing to deploy dedicated services on a context- or time basis to serve certain areas. From a technological perspective, the scalability, interoperability, and efficient (de-)allocation of resources at the edge can enable a whole new set of scenarios. Interactive and time-sensitive services can be partially extended toward the edge, thereby closing the proximity gap with (potential) users. Data collection can happen within geographical / administrative bounds, ensuring compliance with data privacy and data retention policies. Real-time data-driven decisions can be promptly taken without Cloud data exchanges and related latencies.

Improvement and innovation opportunities like these call for new solutions and theoretical frameworks. The FRAME workshop aims at bringing together cloud and edge computing experts from academia and industry in order to identify new challenges, discuss novel systems, methods, and approaches for the management of resources in cloud-edge infrastructures, as well as to promote this vision toward academia and industry stakeholders.

Topics of interest for the workshop include but are not limited to the following ones:
- Optimization Techniques for Resources management at the Edge

- Monitoring of Resources and Applications at the Edge
- Efficient management of storage at the Edge
- Architectures for the Edge federation
- Lightweight virtualization tools and techniques for Edge devices
- Privacy leakage and security analysis techniques in the Cloud/Edge continuum
- Novel Computing and Data Architectures for the Cloud/Edge continuum
- Efficient orchestration and placement of applications for the Cloud/Edge continuum
- Adaptive management of Applications in the Cloud/Edge continuum
- Application Models for the Cloud/Edge continuum
- Edge OS for autonomous data processing and hyper-distributed applications
- Fault detection and prevention in the Cloud/Edge continuum
- QoE/QoS modeling and assessment for the Cloud/Edge continuum
- ML/AI techniques and algorithms for Cloud/Edge orchestration

Important Dates

April 8, 2021: Submission of regular papers, by midnight CEST (Extended, STRICT)
        Submission site will close on April 9, 2021 at 1:00 AM CEST
April 8, 2021: Submission of posters and WIP papers, by midnight CEST (Extended, STRICT)
        Submission site will close on April 9, 2021 at 1:00 AM CEST
April 21, 2021: Notification of paper acceptance/rejection
April 28, 2021: Camera-ready paper submission
May 14, 2021: Deadline for authors' presentation videos (optional)
June 25, 2021: Workshop
TBD : Early registration deadline.

Submissions

Accepted papers will be published in the conference Proceedings and in the ACM digital Library. Submitted papers must be original work that has not appeared in and is not under consideration for another conference or a journal. Every submitted paper will be reviewed by at least three members of the Program Committee. Reviewing will be single blind. Authors are invited to submit papers of the following types and lengths, in the [ACM Proceedings](#) format style:

- Regular papers (maximum 6 pages) should present innovative works whose claims are supported by solid justifications.
- Short papers (maximum 4 pages) should target position papers that articulate a high-level vision, describe challenging future directions in the area of Edge Cloud resources management
- Work-in-Progress/ Virtual Posters (maximum 2 pages) are expected to present work that is less mature but holds promise, but do not merit a full submission.

Please note that registering on the submission site with a title and meaningful abstract by the earliest deadline is required for enabling the actual paper submission.

Proofs and additional material omitted due to space constraints can be put into an appendix to be read at the reviewers' discretion. Proofs added into appendix will *not* be published in the proceedings. WIP/Virtual poster submissions are encouraged to additionally submit a draft of the slides/poster they are planning to present.

Submissions should be made via HotCRP.com at the following link:

https://frame2021.hotcrp.com

Please be sure to register your submission on HotCRP, upload the PDF of the paper, and freeze the submission before the deadline.

FRAME proceedings will be published by ACM in the HPDC proceedings companion book. Additionally, we are working to organise a Journal Special Issue dedicated to the topics of the workshop in the Springer Journal of Grid Computing. Authors of selected papers will be invited to submit extended versions of their work to the special issue.

The authors must be prepared to sign a copyright transfer statement. At least one author of each accepted paper must register to the workshop by the early date, to be indicated by the organizers, and *must* present the paper.

Virtual presentation files

Authors of accepted papers will have the option to submit additional presentation material, before the conference and along with the camera ready of their paper. This additional material will be published in the ACM Digital Library together with the paper.

Authors may choose to submit a presentation video or slides as auxiliary material (optional):
- Regular papers: presentation slides; 20 minutes presentation video
- Short Papers: presentation slides; 20 min presentation video
- WIP/Virtual poster: presentation slides or poster; 10 minutes presentation video

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