The 3rd IEEE/ACM International Workshop on Network-Aware Big Data Computing (NEAC)

Co-located with CCGrid'21, Melbourne, Australia

Call for Papers

* All accepted papers in NEAC will be published in the Proceedings of the 21st IEEE/ACM International Symposium in Cluster, Cloud, and Grid Computing, published by **IEEE**.
* There will be a **Best Paper Award** at NEAC 2021.

Organizers

Long Cheng, North China Electric Power University, Beijing, China
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Important Dates

Submission Deadline: Feb 14th, 2021
Author Notification: Feb 28th, 2021
Camera-Ready Due: Mar 5th, 2021
Workshop Date: May 10th, 2021

About

Network communication is one of the main performance challenges for big data computing in large distributed systems such as data centers, in terms of both communication time and energy consumption. Significant improvements have been achieved by using the state-of-the-art methods, designed in the research domains of data management (e.g., locality scheduling), data communications (e.g., flow scheduling) and network management (e.g., routing). However, almost all the techniques in their own fields just view each field as a black box, and the additional performance gains from a co-optimization perspective have not yet been well explored. Moreover, in emerging data networks (e.g., DCNs with programmable switches or IoT networks), part of computation from end-hosts can be offloaded into networks. This new paradigm can process data as it flows and has redefined the computation and communication in data processing, and thus how to optimize big data computing within the scheme becomes an interesting question.

NEAC aims to explore network-aware optimization opportunities for big data computing in distributed systems. It will bring researchers from related fields together to investigate innovative models, algorithms, architectures and systems to minimize data movement time, message traffic and energy consumption for big data computing in various network infrastructures, and consequently deliver significant performance improvements to the large-scale data analytics community

Topics of Interest

This workshop seeks interesting and innovative contributions and surveys on methods and designs covering all aspects of optimization for data computing, communication, message traffic and energy consumption in different network configurations. This workshop also encourages new initiatives of building bridges between big data computing and network communications. Topics of interest include, but are not limited to:

1. All network-aware optimization techniques for big data computing in distributed environments such as data locality, task, job, flow and routing scheduling in cluster, grid, edge and cloud.

2. All data-aware network designs such as protocols, domain-specific solutions and architectures for wireless networks, software-defined networks, data center networks, peer-to-peer networks, sensor networks, and Internet of Things.

3. All application and network co-design techniques for big data computing such as performance models, algorithms, programming paradigms, architectures and systems.

Submission

Submit your paper (up to **8 pages** for long papers and **4 pages** for short papers, IEEE format) via the EasyChair paper submission website https://www.easychair.org/conferences/?conf=neac21

For further information regarding the NEAC 2021 program, please contact the workshop co-organizer Long Cheng at cheng03@ieee.org

More details about NEAC 2021 are available at https://neac2021.github.io.