January 6, 2017

Prof. David A. Bader
Editor-in-Chief
Transactions on Parallel and Distributed Systems

Dear Prof. Bader:

I am pleased to submit an original research article entitled "Confluence: Improving Iterative Distributed Operations by Key-Dependency-Aware Partitioning" by Feng Liang, Francis C.M. Lau, Heming Cui and Cho-Li Wang for consideration for publication in the *Transactions on Parallel and Distributed Systems*. The manuscript tackles the problem of significant network traffic in iterative distributed applications.

In this manuscript, we show that the network traffic of iterative distributed applications can be reduced by as much as 50% by exploiting the data dependency between different computing iterations. Distributed systems can partition correlated data to the same computer node in a computing iteration, and therefore, it avoids the cross-node communication in the following iterations.

We believe that this manuscript is appropriate for publication by the *Transactions on Parallel and Distributed Systems* because it presents a new data structure for distributed systems and works on distributed scheduling. Our manuscript creates a data partitioning scheme that greatly reduces the network traffic for diverse distributed applications in general distributed systems.

This manuscript has not been published and is not under consideration for publication elsewhere. We have no conflicts of interest to disclose. If you feel that the manuscript is appropriate for your journal, we suggest the following editors:

(1) Bingsheng He, Dept. Computer Science, National University of Singapore, 65167998;
(2) David Padua, Dept. Computer Science, University of Illinois at Urbana-Champaign, 2173334223;
(3) Feng Qin, Dept. Computer Science and Engineering, The Ohio State University, 614-247-4533.

Thank you for your consideration!

Sincerely,

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