2021 IEEE/ACM Sixth International Parallel Data Systems Workshop (PDSW 2021)

St. Louis, Missouri, USA 15 November 2021



IEEE Catalog Number: CFP21W50-POD ISBN: 978-1-6654-1416-6

Copyright © 2021 by the Institute of Electrical and Electronics Engineers, Inc. All Rights Reserved

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

*** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.

 IEEE Catalog Number:
 CFP21W50-POD

 ISBN (Print-On-Demand):
 978-1-6654-1416-6

 ISBN (Online):
 978-1-6654-1837-9

Additional Copies of This Publication Are Available From:

Curran Associates, Inc 57 Morehouse Lane Red Hook, NY 12571 USA Phone: (845) 758-0400

Fax: (845) 758-2633

E-mail: curran@proceedings.com Web: www.proceedings.com



2021 IEEE/ACM Sixth International Parallel Data Systems Workshop (PDSW) PDSW 2021

Table of Contents

Message from the Workshop Chairs
Session 1
New Challenges of Benchmarking All-Flash Storage for HPC
Understanding the I/O Impact on the Performance of High-Throughput Molecular Docking
I/O Bottleneck Detection and Tuning: Connecting the Dots using Interactive Log Analysis
Data-Aware Storage Tiering for Deep Learning
Session 2
SCTuner: An Autotuner Addressing Dynamic I/O Needs on Supercomputer I/O Subsystems

User-Centric System Fault Identification Using IO500 Benchmark Radita Liem (RWTH Aachen University), Dmytro Povaliaiev (RWTH Aachen University), Jay Loftstead (Sandia National Labs), Julian Kunkel (Göttingen University), and Christian Terboven (RWTH Aachen University)	35
Verifying IO Synchronization from MPI Traces Sushma Yellapragada (University of Illinois Urbana-Champaign, Illinois), Chen Wang (University of Illinois Urbana-Champaign, Illinois), and Marc Snir (University of Illinois Urbana-Champaign, Illinois)	41
Author Index	47