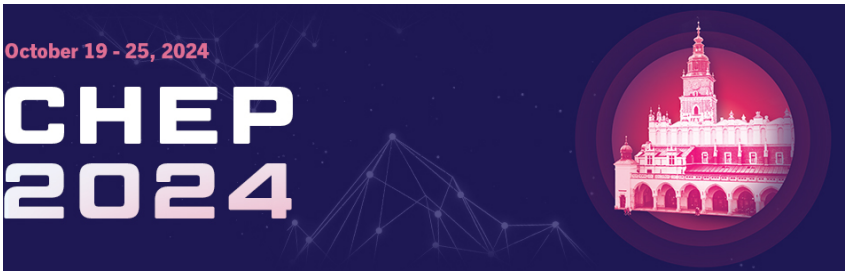


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# A RoCE-based network framework for science workloads in HEPS data center

*Wednesday 23 October 2024 13:30 (18 minutes)*

According to the estimated data rates, it is predicted that 800 TB raw experimental data will be produced per day from 14 beamlines at the first stage of the High-Energy Photon Source (HEPS) in China, and the data volume will be even greater with the completion of over 90 beamlines at the second stage in the future. Therefore, designing a high-performance, scalable network architecture plays a crucial role in the efficient output of scientific tasks. We designed a RoCE-based network framework for science workloads in HEPS data center, which provides high-performance network connectivity between HPES Data Acquisition system(DAQ) and HEPS data center, as well as the compute and storage system within the HEPS data center. The test results show that the performance of the RoCE-based network framework of the HEPS data center can be comparable to that of the IB-based network framework,and is better than the TCP/IP-based network framework.

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