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CLAS12 remote data-stream processing using ERSAP framework

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Implementing a physics data processing application is relatively straightforward with the use of current containerization technologies and container image runtime services, which are prevalent in most high-performance computing (HPC) environments. However, the process is complicated by the challenges associated with data provisioning and migration, impacting the ease of workflow migration and deployment. Transitioning from traditional file-based batch processing to data-stream processing workflows is suggested as a method to streamline these workflows. This transition not only simplifies file provisioning and migration but also significantly reduces the necessity for extensive disk space. Data-stream processing is particularly effective for real-time processing during data acquisition, thereby enhancing data quality assurance. This paper introduces the integration of the JLAB CLAS12 event reconstruction application within the ERSAP data-stream processing framework that facilitates the execution of streaming event reconstruction at a remote data center and enables the return streaming of reconstructed events to JLAB while circumventing the need for temporary data storage throughout the process.

Significance

References

Experiment context, if any

CLAS12

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