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Near-Real Time, Large-Volume Reconstruction of PHENIX Data Using High Throughput GRID Networking BRIAN LOVE, Vanderbilt University — Near-real time reconstruction of a large volume (25 TBytes) of raw data from the PHENIX experiment at the Relativistic Heavy Ion Collider (RHIC) has been sustained for several weeks using CPU resources of the ACCRE computing facility at Vanderbilt University. The data transfers to and from the Brookhaven National Laboratory (BNL), where RHIC is located, utilized the Open Science GRID infrastructure. Raw data files were transferred daily from RHIC to ACCRE, where, through an automated pipeline, these files were processed and the output returned to BNL. At ACCRE we developed fault tolerant mechanisms to ensure a robust transfer operation. To streamline control of the production pipeline, we implemented a dynamic Web-based Monitoring application. Additionally, with the incorporation of GRID networking into the fabric of the PHENIX data production system, we confirm the ability to combine computing resources from diverse geographical locations.

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