

Operation and Management of a Heterogeneous Large-Scale, Multi-Purpose Computer Cluster at Brookhaven National Lab

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The operation and management of a heterogeneous large-scale, multi-purpose computer cluster is a complex task given the competing nature of requests for resources by a large, world-wide user base. Besides providing the bulk of the computational resources to experiments at the Relativistic Heavy-Ion Collider (RHIC), this large cluster is part of the U.S. Tier 1 Computing Center for the ATLAS experiment at the LHC, and it provides support to the Large Synoptic Survey Telescope (LSST) project. A description of the existing and planned upgrades in infrastructure, hardware and software architecture that allow efficient usage of computing and distributed storage resources by a geographically diverse user base will be given, followed by a description of near and medium-term computing trends that will play a role in the future growth and direction of this computer cluster.

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