

Storage management in a large scale at BNL

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Brookhaven National Laboratory stores and processes large amounts of data from the following: PHENIX, STAR, ATLAS, Belle II, Simons, as well as smaller local projects. This data is stored long term in tape libraries but one working data is stored in disk arrays. Hardware raid devices from companies such as Hitachi Ventara are very convenient and require minimal administrative intervention. However, they are very expensive relative the alternatives. BNL is making a move toward JBOD (Just a Bunch of Disk) arrays with Linux based software raid. The performance is comparable and sometimes better than the hardware cousins but the cost is less than half. However, the construction and administration is more complex. This requires more hours of skilled manpower from staff to install and maintain. I am developing software at BNL to automate these processes to the level of hardware raid in order to reduce this burden while allowing cost savings.

Author: HANCOCK, Robert (Brookhaven National Laboratory)

Presenter: HANCOCK, Robert (Brookhaven National Laboratory)

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