



Contribution ID: 350

Type: **Poster presentation**

Using Solid State Disk Array as a Cache for LHC ATLAS Data Analysis

User data analysis in high energy physics presents a challenge to spinning-disk based storage systems. The analysis is data intense, yet reads are small, sparse and covers a large volume of data files. It is also unpredictable due to users' response to storage performance. We describe here a system with an array of Solid State Disk as a non-conventional, standalone file level cache in front of the spinning disk storage to help improve the performance of LHC ATLAS user analysis at SLAC. The system uses a long period of data access records to make caching decisions. It can also use information from other sources such as a work-flow management system. We evaluate the performance of the system both in terms of caching and its impact on user analysis jobs. The system currently uses Xrootd technology, but the technique can be applied to any storage system.

Primary author: Dr MOUNT, Richard Philip (SLAC National Accelerator Laboratory (US))

Co-authors: HANUSHEVSKY, Andrew (STANFORD LINEAR ACCELERATOR CENTER); YANG, Wei (SLAC National Accelerator Laboratory (US))

Presenter: Dr MOUNT, Richard Philip (SLAC National Accelerator Laboratory (US))

Track Classification: Data Stores, Data Bases, and Storage Systems