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Xrootd in BaBar

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The BaBar Experiment stores its reconstructed event data in root files which amount to more than one petabyte and more than two million files. All the data are stored in the mass storage system (HPSS) at SLAC and part of the data is exported to Tier-A sites.

Fast and reliable access to the data is provided by Xrootd at all sites. It integrates with a mass storage system and files that are not on disk are automatically staged to disk if requested by a user. The built-in fault tolerance allows clients to survive failures, for example a crashed data server, and eases the maintenance of the cluster. With Xrootd it is easy to repair a broken machine without any impact on users.

At SLAC we have two Xrootd clusters. One read-only cluster with 59 data servers which is used by analysis jobs. The second is a production cluster with 16 data servers which is used for reading and writing files. More than 4000 CPUs access these two clusters.

We will discuss the setup, usage and experience we have with maintaining Xrootd data clusters for a running experiment. We also will describe current development of connecting Xrootd clusters between Tier-A sites.

Submitted on behalf of Collaboration (ex, BaBar, ATLAS)

BaBar

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