



Contribution ID: 541

Type: Poster

Comparative Investigation of Shared Filesystems for the LHCb Online Cluster

Tuesday, May 22, 2012 1:30 PM (4h 45m)

This paper describes the investigative study undertaken to evaluate shared filesystem performance and suitability in the LHCb Online environment. Particular focus is given to the measurements and field tests designed and performed on an in-house AFS setup, and related comparisons with NFSv3 and pNFS are presented. The motivation for the investigation and the test setup arises from the need to serve common user-space like home directories, experiment software and control areas, and clustered log areas. Since the operational requirements on such user-space are stringent in terms of read-write operations (in frequency and access speed) and unobtrusive data relocation, test results are presented with emphasis on file-level performance, stability and “high-availability” of the shared filesystems. Use-cases specific to the experiment operation in LHCb, including the specific handling of shared filesystems served to a cluster of 1500 diskless nodes, are described. Issues of authentication token expiry are explicitly addressed, keeping in mind long-running analysis jobs on the Online cluster. In addition, quantitative test results are also presented with alternatives including pNFS, which is now being seen as an increasingly viable option for shared filesystems in many medium to large networks. Comparative measurements of filesystem performance benchmarks are presented, which are seen to be used as reference for decisions on potential migration of the current storage solution deployed in the LHCb online cluster.

Primary author: SUBBLIAH, Vijay Kartik (CERN)

Co-author: NEUFELD, Niko (CERN)

Presenters: NEUFELD, Niko (CERN); SUBBLIAH, Vijay Kartik (CERN)

Session Classification: Poster Session

Track Classification: Computer Facilities, Production Grids and Networking (track 4)