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Date published:

Monday, 14 October, 2013

Document type:

Conference paper

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Cloud storage is an emerging architecture aiming to provide increased scalability and access performance, compared to more traditional solutions. CERN is evaluating this promise using Huawei UDS and OpenStack SWIFT storage deployments, focusing on the needs of high-energy physics. Both deployed setups implement S3, one of the protocols that are emerging as a standard in the cloud storage market. A set of client machines is used to generate I/O load patterns to evaluate the storage system performance. The presented read and write test results indicate scalability both in metadata and data perspectives. Further the Huawei UDS cloud storage is shown to be able to recover from a major failure of losing 16 disks. Both cloud storages are finally demonstrated to function as back-end storage systems to a filesystem, which is used to deliver high energy physics software.

Event published at:

20th International Conference on Computing in High Energy and Nuclear Physics (CHEP2013)

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