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XRootD and Object Store: A new paradigm

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The XRootD software framework is essential for data access at WLCG sites. The WLCG community is exploring and expanding XRootD functionality. This presents a particular challenge at the RAL Tier-1 as the Echo storage service is a Ceph based Erasure Coded object store. External access to Echo uses gateway machines which run GridFTP and XRootD servers. This paper will describe how third party copy, WebDav and additional authentication protocols have been added to these XRootD servers. This allows ALICE to use Echo as well as preparing for the eventual phase out of GridFTP.

Local jobs access Echo via XCaches on every worker node. Remote jobs are increasingly accessing data via XRootD on Echo. For CMS jobs this is via their AAA service. For ATLAS, who are consolidating their storage at fewer sites, jobs are increasingly accessing data remotely. This paper describes the continuing work to optimise both types of data access by testing different caching methods, including remotely configured XCaches (using SLATE) running on the RAL OpenStack cloud infrastructure.

Consider for promotion

No

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