

# Reliable online data-replication in LHCb

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In LHCb raw data files are created on a high-performance storage system using a custom, speed-optimized file-writing software. The file-writing is orchestrated by a data-base, which represents the life-cycle of a file and is the entry point for all operations related to files such as run-start, run-stop, file-migration, file-pinning and ultimately file-deletion.

File copying to the Tier0 is done using LHCb's standard Grid framework, DIRAC. The file-mover processes also prepare the Offline-reprocessing by entering the files into the LHCb Bookkeeping database. In all these operations a lot of emphasis has been put on reliability via handshakes, cross-checks and retries.

This paper presents the architecture, implementation details, performance results from the LHCb Full System test and associated tools (command line, web-interface).

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