

A Filesystem to access CASTOR

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CASTOR provides a powerful and rich interface for managing files and pools of files backed by tape-storage. The API is modelled very closely on that of a POSIX filesystem, where part of the actual I/O part is handled by the rfiio library. While the API is very close to POSIX it is still separated, which unfortunately makes it impossible to use standard tools and scripts straight away. This is particularly inconvenient when applications are written in languages other than C/C++ such as is frequently the case in web-apps. Here up to now the only recourse was to use command-line utilities and parse their output, which is clearly a kludge.

We have implemented a complete POSIX filesystem to access CASTOR using FUSE (Filesystem in Userspace) and have successfully tested and used this on SLC4 and SLC5 (both in 32 and 64 bit). We call it CastorFS. In this paper we will present its architecture and implementation, with emphasis on performance and caching aspects.

Primary authors: MAZUROV, Alexander (CERN); Dr NEUFELD, Niko (CERN)

Presenter: MAZUROV, Alexander (CERN)

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