



Contribution ID: 111

Type: **Poster**

Status and evolution of CASTOR (Cern Advanced STORAGE)

Tuesday 22 May 2012 13:30 (4h 45m)

This is an update on CASTOR (CERN Advanced Storage) describing the recent evolution and related experience in production during the latest high-intensity LHC runs.

In order to handle the increasing data rates (10GB/s average for 2011), several major improvements have been introduced.

We describe in particular the new scheduling system that has replaced the original CASTOR one. It removed the limitations ATLAS and CMS were hitting in terms of file openings rates (from 20 Hz to 200+ Hz) while simplifying the code and operations at the same time.

We detail how the usage of the internal database has been optimized to improve efficiency by a factor 3 and cut opening file latency by orders of magnitude (from O(1s) to O(1ms)).

Finally, we will report on the evolution of the CASTOR monitoring and give the roadmap for the future.

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Session Classification: Poster Session

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