

## Optimising recall from tape using Archive Metadata

*Friday 28 March 2025 11:45 (15 minutes)*

During Run-3, CTA has demonstrated very high write efficiency at nominal DAQ rates. For retrieval, CTA relies on time-based colocation of data on tape, but this has proved to be much less efficient than expected. Furthermore, the ratio of tape reads to writes is expected to significantly increase during Run-4, as some LHC experiments move towards the “tape carousel” model. Two years ago, we started to analyse the constraints from the experiments and tape sites, in order to devise a way to improve retrieve efficiency. The resulting Archive Metadata proposal is a practical abstraction layer between experiment data management and tape storage endpoints. It allows to express how group of files are likely be staged together.

This talk will present how this project has evolved over the past two years, its initial proposal implementation and finally an overview of the collected metadata during the 2024 Heavy Ion run.

Finally, we will also give an overview of the plan for upcoming research and development using Archive Metadata.

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**Session Classification:** CTA Development and Roadmap

**Track Classification:** CTA Development