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Exploring Client-Server Scalability with RNTuple & EOS: Comparative Analysis of Physics Data Formats for Analysis

Collaboratively, the IT and EP departments have launched a formal project within the Research and Computing sector to evaluate a novel data format for physics analysis data utilized in LHC experiments and other fields. The objective of this initiative is to substitute the current TTree data format of ROOT with a more efficient format known as RNTuple, which provides superior support for multi-threading and enhanced compression capabilities. This aspect of the project focuses on verifying the scalability of the storage back-end EOS during the migration from the old to the new format, utilizing replicated and erasure coded profiles.

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