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The HSF Conditions Database

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Conditions data is the subset of non-event data that is necessary to process event data. It poses a unique set of challenges, namely a heterogeneous structure and high access rates by distributed computing. As these challenges are similar across various High Energy Physics (HEP) and Nuclear Physics (NP) experiments, the HEP Software Foundation (HSF) hosted a forum to discuss and share experiences from different collaborations. This yielded a white paper on 'best practice' for conditions data access, and a corresponding chapter of the HSF Community White Paper. Based on this experience, the potential for an experiment-agnostic conditions database was evident. An HSF activity was created to publish a white paper on conditions data use cases and requirements, to provide the basis for a conditions database designed as Community Software.

This presentation will discuss the reference implementation, an 'HSF project' that satisfies those use cases and requirements. The reference implementation was developed in collaboration with sPHENIX, serving as the first real world application. This direct feedback provided a clearer understanding of the requirements, and additional implementation recommendations, while using the experts in the HSF activity to maintain its experiment-agnostic nature. In addition to sPHENIX, Belle II has also expressed interest in adopting the HSF reference implementation to benefit from its demonstrated scalability and performance.

Requested talk length

20

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