

High Performance C++ Reflection

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C++ does not offer access to reflection data: the types and their members as well as their memory layout are not accessible. Reflex adds that: it can be used to describe classes and any other types, to lookup and call functions, to lookup and access data members, to create and delete instances of types. It is rather unique and attracts considerable interest also outside of high energy physics.

Reflex is a fundamental ingredient in the data storage framework of most of the LHC experiments. It is used in a production context after several years of development. Based on this experience a new version of Reflex has been designed, allowing faster lookup, a clearer layout, a hierarchical organization of type catalogs, and a straight forward near-term extension to support multithreaded access. This new API is backed by a newly designed, externally contributed test suite based on CMake. We will present these developments and the plans for the near future.

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oral

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