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Multi-threaded Object Streaming

The CMS experiment at CERN's Large Hadron Collider in Geneva redesigned the code handling the conditions data during the last years, aiming to increase performance and enhance maintainability. The new design includes a move to serialise all payloads before storing them into the database, allowing the handling of the payloads in external tools independent of a given software release. In this talk we present the results of performance studies done using the serialisation package from the Boost suite as well as serialisation done with the ROOT (v5) tools. Furthermore, as the Boost tools allow parallel (de-)serialisation, we show the performance gains achieved with parallel threads when de-serialising a realistic set of conditions in CMS. Without specific optimisations an overall speed up of a factor of 3-4 was achieved using multi-threaded loading and de-serialisation of our conditions.

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