

21st International Conference on Computing in High Energy and Nuclear Physics (CHEP2015)



Contribution ID: 526

Type: **oral presentation**

How the Monte Carlo production of a wide variety of different samples is centrally handled in the LHCb experiment.

Thursday, 16 April 2015 09:15 (15 minutes)

In the LHCb experiment all massive processing of data is handled centrally. In the case of simulated data a wide variety of different types of Monte Carlo (MC) events has to be produced, as each physics' analysis needs different sets of signal and background events. In order to cope with this large set of different types of MC events, of the order of several hundreds, a numerical event type identification code has been devised and is used throughout. A dedicated package contains all event type configurations files, automatically produced from this code, and is released independently from the simulation application. The deployment of the package on the distributed production system is handled centrally via the LHCb distribution tools and newly deployed event types are registered in the Bookkeeping catalogue. MC production requests are submitted via the LHCb production request system where a dedicated customization for MC data is in place. A specific request is made using predefined models centrally prepared to reproduce various data taking periods and selecting the event type from the Bookkeeping catalogue. After formal approval the requests are automatically forwarded to the LHCb Production team that carries them out. As the data are produced in remote sites they are automatically registered to the Bookkeeping catalogue where they can be found in folders specifying the event type, simulation conditions and processing chain. The various elements in the procedure, from writing a file for an event type to retrieving the sample produced, and the conventions established to allow their interplay will be described. The choices made have allowed to automate the MC production and for experts to concentrate on their specific tasks: while the configurations for each event type are prepared and validated by the physicists and simulation software experts, the MC samples are produced transparently on a world-wide distributed system the by LHCb production team.

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Session Classification: Track 2 Session

Track Classification: Track2: Offline software