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The computing model of the LHCb Upgrade

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The LHCb Upgrade experiment will start operations in LHC Run 3 from 2021 onwards. Owing to the five-times higher instantaneous luminosity and higher foreseen trigger efficiency, the LHCb Upgrade will collect signal yields per unit time approximately ten times higher than that of the current experiment, with pileup increasing by a factor of six. This contribution presents the changes in the computing model and the associated offline computing resources needed for the LHCb Upgrade, that are defined by the significantly increased trigger output rate compared to the current situation, and the corresponding necessity to generate significantly larger samples of simulated events. The update of the LHCb computing model for Run 3, and beyond, is discussed with an emphasis on the optimization that has been applied to the usage of distributed computing CPU and storage resources.

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