

# CMS production and processing system - Design and experiences

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ProdAgent is a set of tools to assist in producing various data products such as Monte Carlo simulation, prompt reconstruction, re-reconstruction and skimming

In this paper we briefly discuss the ProdAgent architecture, and focus on the experience in using this system in recent computing challenges, feedback from these challenges, and future work. The computing challenges have proven invaluable for scaling the system to the level desired for the first LHC physics runs. The feedback from the recent computing challenges resulted in a design review of some of the ProdAgent core components. Results of this review and the mandate to converge development within the data management sub projects, led to the establishment of the WCore project: a common set of libraries for CMS workflow systems, with the aim of reducing code duplication between sub projects, and increasing maintainability. This paper discusses some of the lessons learned from recent computing challenges and how this experience has been incorporated into the WCore project.

The current ProdAgent project has shifted towards bulk operations (optimizing database performance) and buffered tasks (so to better handle reliability when interacting with third party components). Two significant areas of development effort are the migration to a common set of libraries (WCore) for all CMS workflow systems and a system to split and manage work requests between ProdAgents - to better utilise the available resources.

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