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CMS@Home: Enabling Volunteer Computing Usage for CMS

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Volunteer computing remains an untapped opportunistic resource for the LHC experiments. The use of virtualization in this domain was pioneered by the Test4theory project and enabled the running of high-energy particle physics simulations on home computers. This paper describes the model for CMS to run workloads using a similar volunteer computing platform. It is shown how the original approach is explored to map onto the existing CMS workflow and identifies missing functionality along with the components and changes that are required. The final implementation of the prototype is detailed along with the identification of areas that would benefit from further development.

Primary author: FIELD, Laurence (CERN)

Co-authors: SPIGA, Daniele (CERN); RIAHI, Hassen (CERN); Mr BORRAS, Hendrik (Heidelberg University)

Presenter: FIELD, Laurence (CERN)

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