

Preparing for the HL-LHC computing challenge: the WLCG DOMA project

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The HSF Community White Paper indicated Data Organization, Management, and Access as one of the key areas to explore to address the HL-LHC computing challenge. The WLCG collaboration initiated the R&D DOMA project in early 2018 to expose existing initiatives in this area, foster collaboration between active parties and organize the evolution in a coherent way. The ultimate goal of WLCG DOMA is to commission an ecosystem of tools and services to build a cloud-like distributed storage infrastructure, also known as Data Lake, to optimize cost of scientific computing. The R&D initiatives span many areas: commissioning of asynchronous transfer protocol alternatives to gridFTP, prototyping token-based authentication and authorization, evaluating technologies and methodologies for caching and latency hiding, defining and implementing storage Quality-Of-Services. Finally, network R&D activities aim at optimizing traffic in a Data Lake environment at several levels. In this contribution we will present the current achievements of the DOMA project and outline the future direction.

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