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WLCG data lake prototype for HL-LHC

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Аннотация:

A critical challenge of high-luminosity Large Hadron Collider (HL-LHC), the next phase in LHC operation, is the increased computing requirements to process the experiment data. Coping with this demand with today's computing model would exceed a realistic funding level by an order of magnitude. Many architectural, organizational and technical changes are being investigated to address this challenge. This paper describes the prototype of a WLCG data lake, a storage service of geographically distributed data centers connected by a low-latency network. The architecture of an EOS data lake is presented, showing how it leverages economy of scale to decrease cost. The paper discusses first experiences with the prototype and first test computing jobs reading data from the lake. © 2018 Ivan Kadochnikov, Ian Bird, Gavin. McCance, Jaroslava Schovancova, Maria Girone, Simone. Campana, Xavier Espinal Currul.

Ключевые слова:

Distributed computer systems, Energy storage, Lakes, Quality of service