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WLCG Transfers Dashboard: A unified monitoring tool for heterogeneous data transfers.

Monday, October 14, 2013 3:00 PM (45 minutes)

The Worldwide LHC Computing Grid provides resources for the four main virtual organizations. Along with data processing, data distribution is the key computing activity on the WLCG infrastructure. The scale of this activity is very large, the ATLAS virtual organization (VO) alone generates and distributes more than 40 PB of data in 100 million files per year. Another challenge is the heterogeneity of data transfer technologies. Currently there are two main alternatives for data transfers on the WLCG: File Transfer Service (FTS) and XRootD protocol for transferring data on the XRootD federated storage. Each LHC VO has its own monitoring system which allows it to understand its own transfer activity but is limited to the scope of that particular VO. There is a need for a global system which would provide a complete cross-VO and cross-technology picture of all WLCG data transfers.

We present a unified monitoring tool - WLCG Transfers Dashboard - where all the VOs and technologies coexist and are monitored together. The scale of the activity and the heterogeneity of the system raises a number of technical challenges. Each technology comes with its own monitoring specificities and some of the VOs use several of these technologies. The presentation will describe the implementation of the system with particular focus on the design principles applied to ensure the necessary scalability and performance, and to easily integrate any new technology providing additional functionality which might be specific to that technology.

Primary authors: BECHE, Alexandre (CERN); TUCKETT, David (CERN)

Co-authors: KADOCHNIKOV, Ivan (Joint Inst. for Nuclear Research (RU)); ANDREEVA, Julia (CERN); SAIZ, Pablo (CERN); BELOV, Sergey (Joint Inst. for Nuclear Research (RU))

Presenters: BECHE, Alexandre (CERN); TUCKETT, David (CERN)

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