

Debugging Data Transfers in CMS

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The CMS experiment at CERN is preparing for LHC data taking in several computing preparation activities. In early 2007 a traffic load generator infrastructure for distributed data transfer tests was designed and deployed to equip the WLCG Tiers which support the CMS Virtual Organization with a means for debugging, load-testing and commissioning data transfer routes among CMS Computing Centres. The LoadTest is based upon PhEDEx as a reliable, scalable data set replication system. The Debugging Data Transfers (DDT) Task Force was created to coordinate the debugging of the data transfer links. The task force aimed to commission most crucial transfer routes among CMS tiers by designing and enforcing a clear procedure to debug problematic links. Such procedure aimed to move a link from a debugging phase in a separate and independent environment to a production environment when a set of agreed conditions are achieved for that link. The goal was to deliver one by one working transfer routes to Data Operations. The preparation, activities and experience of the DDT Task Force within the CMS experiment are discussed. Common technical problems and challenges encountered during the lifetime of the taskforce in debugging data transfer links in CMS are explained and summarized.

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