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Integrating network and transfer metrics to optimize transfer efficiency and experiment workflows

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The Worldwide LHC Computing Grid relies on the network as a critical part of its infrastructure and therefore needs to guarantee effective network usage and prompt detection and resolution of any network issues, including connection failures, congestion, traffic routing, etc. The WLCG Network and Transfer Metrics project aims to integrate and combine all network-related monitoring data collected by the WLCG infrastructure. This includes FTS monitoring information, monitoring data from the XRootD federation, as well as results of the perfSONAR tests. The main challenge consists of further integrating and analyzing this information so that it can be turned into actionable insight for optimization of data transfers and workload management systems of the LHC experiments. The presentation will include technical description of the WLCG network monitoring infrastructure as well as results of the analysis of the collected data. It will also highlight how results of this analysis can be used in order to improve efficiency of the WLCG computing activities.

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