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Distributed Computing for Pierre Auger Observatory

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Pierre Auger Observatory operates the largest system of detectors for ultra-high energy cosmic ray measurements. Comparison of theoretical models of interactions with recorded data requires thousands of computing cores for Monte Carlo simulations. Since 2007 distributed resources connected via EGI grid are successfully used. The first and the second versions of production system based on bash scripts and MySQL database were able to submit jobs to all reliable sites supporting Virtual Organization auger. Many years VO auger belongs to top ten of EGI users based on the total used computing time.

Migration of the production system to DIRAC interware started in 2014. Pilot jobs improve efficiency of computing jobs and eliminate problems with small and less reliable sites used for the bulk production. The new system has also possibility to use available resources in clouds. Dirac File Catalog replaced LFC for new files, which are organized in datasets defined via metadata. CVMFS is used for software distribution since 2014. In the presentation we give a comparison of the old and new production system and report the experience from migration to the new system.

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