

The 6th International Conference "Distributed Computing and Grid-technologies in Science and Education"



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Scientific Workflow Performance over Distributed Computing Infrastructures

The next LHC run starting in 2015 further increases the rate of data produced by the LHC experiments. The dramatic rise in the amount of data produced by scientific instruments presents new challenges for Distributed Computing and Grid-technologies in Science and Education. Among the emerging educational challenges is training in Big Data and scalable computing technologies.

The U.S. Department of Energy's Office of Science is the single largest supporter of basic research in the physical sciences in the United States. Charged by the Office of Science, the U.S. High Energy Physics program identified disciplines with the workforce shortages affecting its mission. Support for advanced training is recommended to address the workforce pipeline gap in large-scale computing and Big Data. This aligns well with the strategic plan for the future of U.S. particle physics that recommends to "Strengthen the global cooperation among laboratories and universities to ...provide efficient training in next-generation hardware and data-science software relevant to particle physics."

Aligned with these recommendations, we review the end-to-end performance of scientific workflows and production systems for distributed computing infrastructures.

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