



ЛАБОРАТОРИЯ ИНФОРМАЦИОННЫХ ТЕХНОЛОГИЙ

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1. I. Pelevanyuk

Using distributed heterogeneous computing resources with DIRAC interware for JINR use-cases

Data and computing-intensive applications in JINR are becoming more and more common: BM@N, MPD, SPD, neutrino experiments and others. Questions appear: how to process data, where to store it, how to transfer it. Today in JINR we have many different computing resources such as batch queues, grid, cloud, and supercomputer. With the integration tool like DIRAC, there is no need to stick just to one resource. Software developed for integration of various computing and storage resources into a single infrastructure, the so-called interware, is intended to facilitate this choice. The DIRAC interware is one of these products. It proved to be an effective solution for many experiments in High Energy Physics and some other domains of science. The DIRAC interware was deployed in the Joint Institute for Nuclear Research to serve the needs of different scientific groups by providing a single interface to a variety of computing resources: grid cluster, computing cloud, supercomputer Govorun, disk, and tape storage systems. The DIRAC based solution is proposed for the Baryonic Matter at Nuclotron experiment which is in operation now as well as for the future experiment Multi-Purpose Detector on the Nuclotron-based Ion Collider Facility. Both experiments have requirements making the use of heterogeneous computing resources necessary.

2. A. Petrosyan, D. Oleinik

Automation of (Big) data processing at LIT computing infrastructure for current and future JINR's experiments

Most of the modern science experiments have critical depends on the speed of processing of collected data. Very often, collected data can be characterized as 'big' data not only by the volume of data but by the content: datasets, files, objects. Automation of the processing of these data is crucial for the success of the research. In this talk, we are going to present the concept of service-based architecture, which required for automation of data-processing in the distributed, heterogeneous computing environment at LIT.