

Data Center Simulation for the BM@N experiment of the NICA project

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One of the uppermost tasks in creating a computing system of the NICA complex is predictive modeling centers of storing and processing data from experimental setups of the complex, in particular, the BM@N detectors, and simulated events of particles collision for comparison with the expected physical result and optimization of the facility detectors geometry.

A new approach was chosen to solve the problem. The approach is based on the representation of information processes as byte streams and use of probability distributions of significant data acquisition processes; in particular, the probabilities of losses of incoming information for different configurations of the data centers equipment must be defined.

The current status of the developed program and the first results of modeling centers of processing and storing data of the BM@N experiment of the NICA complex under different scenarios for executing tasks for the next run scheduled for 2021 are presented.

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