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Network Infrastructure of heterogeneous platrform «HybriLIT»

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The heterogeneous platform «HybriLIT» provides users with ample opportunities for conducting parallel calculations and modeling of new experiments in the field of high energy physics. The platform consists of two clusters: a training and test polygon «HybriLIT» and supercomputer named after Govorun N.N. High performance servers with Intel Xeon series E5, Intel Xeon series Gold (Skylake) and Intel Xeon Phi 7290 (KNL), servers with graphics accelerators Nvidia Tesla K40, K80 and Nvidia Tesla V100 (Volta) are available for users. The network infrastructure of the heterogeneous platform is build on basis of Ethernet 10 Gbit/sec technology, fabric Mellanox InfiniBand 100 Gbit/sec and fabric Intel Omni-Path 100 Gbit/sec are used as high-speed and low-latency backbone between the servers.

In this paper the network infrastructure of the heterogeneous platform «HybriLIT» is described, the results of testing the high-speed and low-latency backbone are given, the comparative analysis of fabric Mellanox InfiniBand 100 Gbit/sec and fabric Intel Omni-Path 100 Gbit/sec for different class of network tasks is performed.

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