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Learning Automata Based Algorithms for Mapping of a Class of Independent Tasks over Highly Heterogeneous Grids

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Abstract
Computational grid provides a platform for exploiting various computational resources over wide area networks. One of the concerns in implementing computational grid environment is how to effectively map tasks onto resources in order to gain high utilization in the highly heterogeneous environment of the grid. In this paper, three algorithms for task mapping based on learning automata are introduced. To show the effectiveness of the proposed algorithms, computer simulations have been conducted. The results of experiments show that the proposed algorithms outperform two best existing mapping algorithms when the heterogeneity of the environment is very high.

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