

# Effective Use of Computational Resources in Multicore Distributed Systems

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**Abstract**—In the last decades, many kinds of task execution models such as grid and cloud computing have been developed. In such distributed systems, each task is processed by respective processor in multicore computers e.g., household PCs which we can easily harness in recent years. If there is one policy to automatically decide the “best” combination and the number of processors (and computers), we effectively utilize those computational resources, thereby large number of jobs can be executed in parallel. In this paper, we propose a method for mapping of execution units for such environments. The method adopts a remapping technology after processor-execution unit mapping[11] is finished. Experimental comparisons by a simulation show the advantages of the proposed method.

**Keyword**—Task Clustering, Multicore, Distributed Systems, Parallel Computing



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