On Computation Models for Clusters of Symmetric Multiprocessors

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During the past few decades, we witnessed the emergence of a considerable number of parallel and distributed computation models, most of which survived for only a brief period of time. Moreover, the development of efficient and scalable parallel programs that are portable across different multiprocessor architectures remains to be a difficult task requiring a good understanding of several low-level details. The emergence of new paradigms such as optical computing, quantum computing, and DNA computing has again raised the issue of suitable parallel computation models, and which model is the right one for which paradigm.

We will focus in this talk on the class of clusters of Symmetric Multiprocessors and give a brief overview of the related issues and the suitability of some of the proposed models. We will also report some of the experimental results for a number of applications.