PREFACE

Advancement in microelectronic technology and communication technology has resulted in the availability of fast, inexpensive processors and cost-effective “loosely-coupled systems” known as Distributed systems, in which software components located at networked workstations communicate and cooperate their actions to achieve the benefits like – resource sharing, better flexibility, higher throughput and higher reliability.

Applications running on a collection of interconnected computers may leave some workstations heavily loaded whereas others may be lightly loaded, causing performance degradation and wastage of computing power and resources. The issue of efficient resource utilization has attracted researchers not only in the field of distributed systems but also in network systems like Local Area Networks. The challenge of efficient resource utilization in the distributed systems can be addressed by spreading the workload among the networked workstations using the process migration technique. Process migration can lead to the efficient overall system utilization by making use of the idle workstations.

The work presented in this thesis is an attempt to develop novel mechanisms for optimized process migration in distributed systems.

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