Abstract:
Software development for fully decentralized distributed systems faces three challenges: Finding and retrieving remote data, synchronized concurrent access to that data, and assignment of data and threads to the system's resources. // Our system accomplishes all three challenges and provides a single system image, which allows applications to run transparently on clusters of heterogeneous multi-core machines. It distributes code, objects and threads onto the compute resources, which may be added or removed at run-time. This dynamic property leads to an ad-hoc network of processors and cores, in which a fully decentralized object location and retrieval algorithm has to guarantee the access to distributed shared objects. // In our system, an object reference can either point into local memory or into remote memory on other nodes. Such a remote reference can become invalid if a node fails or when an object migrates. In this paper, we examine different object location and retrieval algorithms under the assumption of object migration.