

A Message Forward Tool for integration of Clusters of Clusters based on MPI Architecture

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Abstract

Advances in microprocessor technology, power management and network communication have altered the course of development of multiprocessor architectures in order to bring higher level of processing. The introduction of multi-core technology has boosted computing power provided by high-speed network of workstations and SMPs, providing large computational power at an affordable cost using solely commodity components. In this paper, it is presented a tool for integration of several clusters in a single High-Performance System based on MPI standard. The Gateway Process is responsible for MPI process communication channels control and message forwarding, through the use of a protocol that guarantees message ordering and sender/receiver synchronization. It is implemented to support system scalability, offering resources for point to point and collective operations. Results of experimental tests show that the proposed tool is practical and efficient.

Keyword : MPI