Vishwa: A reconfigurable P2P middleware for Grid Computations  
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Abstract: The abundant computing resources available on the Internet has made grid computing over the Internet a viable solution, to scientific problems. The dynamic nature of the Internet necessitates dynamic reconfigurability of applications to handle failures and varying loads. Most of the existing grid solutions handle reconfigurability to a limited extent. These systems lack appropriate support to handle the failure of key-components, like coordinators, essential for the computational model. We propose a two layered peer-to-peer middleware, Vishwa, to handle reconfiguration of the application in the face of failure and system load. The two-layers, task management layer and reconfiguration layer, are used in conjunction by the applications to adapt and mask node failures. We show that our system is able to handle the failures of the key-components of a computation model.