Hot Service Deployment in an Ad Hoc Grid Environment

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ABSTRACT

In this paper, we present a solution to the problem of dynamically deploying grid service factories onto computing nodes running an implementation of the Open Grid Services Infrastructure (OGSI). By providing a non-intrusive Hot Deployment Service (HDS), we extend the service-oriented grid computing paradigm, as it is defined by the Open Grid Services Architecture (OGSA), to provide a more dynamic ad hoc grid environment. Service-oriented grid middleware utilizing the HDS enables organizations or interorganizational communities to form an ad hoc grid to harness unused and scattered resources of an existing IT-infrastructure. The availability of the HDS also improves the capabilities to manage existing grid systems based on the Globus Toolkit 3, which is a vital requirement for the adoption of service-oriented grid systems in production environments.