A System Framework for Dynamic Service Deployment in Container-Based Computing Platform

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Abstract : Cloud computing and virtualization technology have brought an innovative way for people to develop and use software nowadays. However, conventional virtualization comes at the expense of performance loss for applications. Containerbased virtualization could be an option as it potentially reduces overhead and minimizes performance decline of the service platform. In this paper, we introduce a system framework and present an implementation of resource broker for dynamic cloud service deployment on the container-based platform to facilitate the efficient execution and improve the utilization. We target the load-aware service deployment approach for task ranking scenario. This proposed effort can collaborate with resource management system to adaptively deploy services according to the different requests. In particular, our approach relies on composing service immediately onto appropriate container according to user's requirement in order to conserve the waiting time. Our evaluation shows how efficient of the service deployment is and how to expand its applicability to support the variety of cloud service.

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Keywords : cloud computing, container-based virtualization, resource broker, service deployment

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