K-Nearest-Neighbor-Based Service Broker Policy for Data Center Selection in Cloud Computing Environment

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***Abstract*— Cloud Computing offers various resources as services to the internet users. This arise a very important issue in selecting the appropriate data center(s) to serve users' requests. One of the important components in the cloud computing environment is the service broker, which's responsible for selecting an adequate data center to serve a user request. Many of broker policies are implemented in the cloud computing environment. A K-Nearest-Neighbor-Based service broker policy for data center selection in the cloud computing environment is proposed in this paper. This policy used a list of distinctive features and characteristics for each data center and user's request. The results show that the proposed policy outperformed the random-based policy in terms of Average Response Time (ART) and Average Processing Time (APT).**

***Index Terms*— Cloud computing, Data Center, Service Broker Policy, K-Nearest Neighbor.**

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