A four-level linear discriminant analysis based service selection in the cloud environment

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Abstrak

The cloud is an outstanding platform to deal with functionally equivalent services which are exponentially increasing day-by-day. The selection of services to meet the client requirements is a subtle task. The services can be selected by ranking all the candidate services using their network and non-network Quality-of-Service (QoS) parameters, which is formulated as a NP hard optimization problem. In this paper, we proposed a linear discriminant analysis (LDA) based a four level matching model for service selection based on QoS parameters, which includes description matching of a service, matchmaking phase, LDA-based QoS matching and ranking. The LDA-service selection agent is deployed on each cloud to classify services into classes and rank the services based on the aggregate QoS value of each service. Finally, the test results show the efficiency in service selection with minimal discovery overhead, significant reduction in the computation time and the number of candidate services to be considered.