

Evaluating Service Trustworthiness for Service Selection in Cloud Environment

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Abstract : Cloud computing is becoming increasingly popular and more business applications are moving to cloud. In this regard, services that provide similar functional properties are increasing. So, the ability to select a service with the best non-functional properties, corresponding to the user preference, is necessary for the user. This paper presents an Evaluation Framework of Service Trustworthiness (EFST) that evaluates the trustworthiness of equivalent services without need to additional invocations of them. EFST extracts user preference automatically. Then, it assesses trustworthiness of services in two dimensions of qualitative and quantitative metrics based on the experiences of past usage of services. Finally, EFST determines the overall trustworthiness of services using Fuzzy Inference System (FIS). The results of experiments and simulations show that EFST is able to predict the missing values of Quality of Service (QoS) better than other competing approaches. Also, it propels users to select the most appropriate services.

Keywords : user preference, cloud service, trustworthiness, QoS metrics, prediction

Conference Title : ICISCC 2017 : International Conference on Information Science and Cloud Computing

Conference Location : Venice, Italy

Conference Dates : June 21-22, 2017