Composite Web Services: A Game Theory Application for Assessing the Workload Sharing using Shapley Value

International Journal of Computer Applications
Foundation of Computer Science (FCS), NY, USA

Volume 147
Number 1

Year of Publication: 2016

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10.5120/ijca2016910980

Abstract

In distributed environment the changes and challenges faced by composite web services in their network environment are enormous. The primary issue in these systems is to distribute the load among various components of the composite web services to improve the performance through minimizing the response time. In this paper, we present a methodology to estimate the load sharing among composite web services using traditional workflow concept combined with game theory approach. In addition, we have developed a simulation model and observed that the results are promising for a better understanding of workload sharing among individual web services. We obtained the stable solution for ensuring the cooperation of the web services which further helps in capacity planning in composite web services network environment.

References

1. Composite Web Services: A Game Theory Application for Assessing the Workload Sharing using Shapley Value


Index Terms

Computer Science Information Sciences

Keywords

Composite Web services, Shapley value, Workload, Flow Games.