Abstract

Utilization of resources are difficult in a heterogeneous, dynamic environment, like Cloud computing, where resources are accessed and analyzed in real time. Sometimes, it is also needed to adapt to the changing resource usage scenario in order to maintain the desired QoS. We observe that the existing infrastructure of modern civilization is based on some resources accessing and their utilization properly like different utility services, which are pay per user basic. As for example, the utility services like water, gas, electricity etc are chargeable per user. Similarly, the agenda of cloud computing is to provide on demand IT resources on pay per user basis. These IT resources consist of different web services. Accessing and scheduling these web services is always a challenging job. This paper proposes a multistage mathematical model based on ant system, for proper utilization of these web services. Results of the implementation are presented in order to demonstrate the effectiveness of the mathematical model.

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**Index Terms**

Computer Science Distributive

**Key words**

Cloud computing

Web services

Ant System