Utilizing AHP: Resource Allocation Problem in Cloud

Abstract

Cloud Computing is changing the scheme by providing different services to business and government sectors as well as to sole users irrespective of their location. Cloud Computing provides scalable and on demand services to users, but this technology has many challenges. In several applications the last decision is based on the estimate of a number of alternatives in terms of a number of criteria. This problem may become difficult one when criteria are expressed in different tasks or jobs, relevant data are difficult to be quantified. The Analytic Hierarchy Process (AHP) is an effective method dealing with this kind of decision problems. This paper deals with priorities, ranking with consistency method and their results are given through a numerical example. The results show that distributive mode has fast convergence and smaller computational complexity than ideal mode for close system when the AHP method is used in cloud computing applications.

References

**Index Terms**

Computer Science  
Distributed Systems

**Keywords**

Analytic Hierarchy Process, pairwise comparison matrix, Priority vector, Consistency index