SCOPE OF RESEARCH WORK

In Cloud Computing Environment resource allocation involves the whole process from the origin of allocation request along with deciding what, how many, where and when to make resources available to users. For efficient allocation strategy the request parameters must match with the workload characteristics of the server. Thus we can say that Resource Allocation Strategy is about integrating cloud provider activities for utilizing and allocating the scarce and sharable resources within the limit of cloud environment so as to meet the needs of cloud application.

In this thesis the research work done is based on the simultaneous allocation of multiple resources to multiple users through various datacenters. The new throttled algorithm proposed and implemented in this thesis results in the increase in efficiency and throughput over traditional round robin allocation method.

An effective resource allocation strategy is measured by the following parameters to relay for:-

(i) Resource Contention: - The technique worked upon in this thesis is able to handle this situation very calmly where two or more users try to access same resource at the same time. Strategies have been made in consideration with avoidance of resource contention in the research done.

(ii) Resource Over Provisioning: - This is the situation where the application gets surplus resources than demanded one, so the good allocation strategy must be able to handle this as done by our research work.

(iii) Resource Under provisioning: - It occurs when the application is assigned with the fewer number of resources than in demand. The new throttled approach for refined resource allocation handles this issue very efficiently.

The scope of research work done covers the management of resources and their allocation policies in cloud which is major area of concern. Traditional round robin allocation policy has been studied and comparison
has been made with new threshold based allocation policy in the thesis. The work done yield an algorithm with high throughput and increased efficiency thus overcoming the problem of rejection of requests made by the users.

However in this thesis we have given a paradigm to the refinement of resource allocation policies using simulator CloudSim but we have not yet made any industrial implementation of the work done. By certain small amendments this work can also be used for industrial applications also. Also the research work described in the thesis will lead to a new edge towards the allocation schemes in cloud environment so that the main objective of cloud i.e to meet the requirement of large number of customers of resources can be fulfilled.