

# Particle Swarm Optimization for load balancing in distributed computing systems-A Survey

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**Abstract:** Development of technology like Cloud Computing and its widespread usage has given rise to exponential increase in the volume of traffic. With this increase in huge traffic the resources in the network would either be insufficient to handle the traffic or the situation may cause some of the resources to be over utilized or underutilized. This condition leads to reduced performance of the system. To improve the performance of the system the traffic necessities to be regulated such that all the resources are utilized conferring to their capacity which is known as load balancing. Load balancing has been one of the concerns in the distributed computing systems where the computing nodes do not have a global view of the network. There have been constant efforts to provide an efficient solution for load balancing through the approaches like game theory, fuzzy logic, heuristics and metaheuristics. Even though various solutions exist for balancing the load, the issue is challenging as there does not exist one best fit solution. The paper aims at the study of how Particle Swarm Optimization approach is used to achieve an optimal solution for load balancing in distributed computing system.