**Paper No: PU-SOE-CSE-07**

**Efficient Hybrid Load Balancing Algorithm**

[Neeraj Kumar Rathore](https://link.springer.com/article/10.1007/s40009-019-00834-w#auth-1)a, [Umashankar Rawat](https://link.springer.com/article/10.1007/s40009-019-00834-w#auth-2)b & [**Satish Chandra Kulhari**](https://link.springer.com/article/10.1007/s40009-019-00834-w#auth-3)**c**

a. Shri G.S. Institute of Technology and Science, Indore, India

b. School of Computing and IT, Manipal University Jaipur, Jaipur, India

c. Department of CSE, Presidency University, Bengaluru, India

**Abstract**

The scarcity of the servers to cater to the demands of the traffic is one of the most important tasks of load balancing (LB). The increasing number of users at the same point of time does not provide enough room for all users. To provide a solution to this problem, the servers formulate a queue where the users are buffered for a period of time before they get connected to the further servers. If the requests are extremely high, then the load balancer completely aborts the process for every user. The problems discussed above mainly cater to the Client/Server model. This model as well as the difficulties changes for the proposed hybrid Grid model. The network is monitored by the load balancer for discontinued users as these may be cleared by the respective hosts. The balancing of the load should be as usual to the respective hosts for a single network and may later on be applied for the rest of the machines as per requirements. The server hardware requirements have been affected by the increase in decentralization. The cost of the companies and the services that they render has enormously increased and here comes the need for LB. The proposed work on hybrid load balancing solution for Grid is to design and integrate such systems and compare it with the existing ones. The system script has been developed in Java using a modular construction which makes it generic for various other network models. For the efficiency check for selecting servers from a pool, four different algorithms have been analyzed and modified.

**Keywords:**

Load balancing, Grid computing, Performance, Server

**Publication Details:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Journal Name** | **Vol.** | **Month & Year** | **Page No.** | **Publisher** | **Scimago Ranking** |
| National Academy Science Letters | 43 | Oct. 2019  | 177-185 | Springer | Q2 |