CHAPTER 6

CONCLUSION AND FUTURE SCOPE

6.1. Conclusion

The work puts its eye to achieve fast, optimal and fault tolerant algorithm for load and resource allocation for cloud. Novel approaches to improve the performance of system in variant load and cloud environment have been presented. The issues of resource optimization with high resource utilization are optimized with proposed load balancing techniques. Proposed algorithm also optimizes the scheduling time to allocate all resource with high resource utilization by promising global best schedule with least failure probability. Finally, as depicted by the experiments, proposed approaches are proven to be superior as compared to existing algorithm. The efforts are made to design algorithms in such a way to improve over system performance rather than improving a specific parameter like cost, deadline or power. Proposed multi objective resource allocation algorithm reduces the request failure count in fault aware environment and also resource utilization at the same time and improves the reliability of the system in efficient way.

Proposed work for fault ware load balancing algorithm for storage cloud reduces the deadline failure over the system and improves the reliability of the system, reduces the waiting time of request and reducing the average queue length of each server. Average utilization of system has improved in worst case scenario with high request rate. In an fault aware storage cloud proposed system has better overall response time as compared to least loaded algorithm. The power efficient learning based algorithms improves the reliability of system and increasing power efficiency of system as compared to DVFS (Dynamic voltage and frequency scaling) algorithm. The proposed algorithms for hybrid cloud provided better QoS for private and public requests in hybrid cloud environment, makes its reach to different business models in cloud.
The overall probability of request failure has decreased, improving the reliability of system that may be private public or hybrid cloud environment. The research work also takes into consideration improvement done by static, dynamic and learning based algorithms for resource allocation and load balancing for reliable and energy efficient system for Green Computing.

6.2. Future Scope

The advantages of fault aware and reliable algorithm has improved the performance of cloud environment, this can further be improved by incorporating fault tolerant feature to other algorithms like migration and replica management algorithm. This may improve the performance of the system up to a great extend and shall increase the reliability of the system.

The proposed solutions for resource allocation and load balancing can further be improved by introducing further parameter like cost and scalability to improve the system performance. The proposed solutions are restricted to private cloud and can be extended to public or hybrid cloud. The techniques of fault aware learning based algorithm can be used to find better solution in replica management, scalable algorithms, migration algorithms and many more.