Abstract

Performance of cloud computing depends on effective utilization of resources and reliability. With resource allocation algorithms such as banker’s algorithm resource utilization can be done in an effective manner in cloud computing. With reliability we can estimate the fault tolerance capability of a system. Reliability improvement is largely dependent on the availability of operational profile that statistically models the pattern in which the system is more likely to be used in the operating environment. System is less reliable if it exhibits a degree of hardware and software dependency and more reliable if hardware and software failure occur independently. In Cloud computing environment, hundreds of thousands of systems are hosted that consume cloud computing services. These services have of lots of hardware, software platform and infrastructure support, each of which though carefully engineered are still capable of failure. These failure rates and complexity of database make cloud less reliable. In this paper, we have proposed a reliability model that estimates the mean time to failure and failure rate based on delayed exponential distribution. Through this model, we study the effect of older and newer systems on cloud computing reliability that consumes the cloud computing services.
Generalized Reliability Model for Cloud Computing

References


Index Terms

Computer Science
Distributed Systems
Keywords
Reliability  Cloud computing  Exponential distribution