Abstract

Cloud is an emerging technology where the providers provide various services to Information Technology by adopting the concept of service oriented architecture, distributed, autonomic, and utility computing. In the present competitive world, building a highly dependable cloud application and opting for the optimal fault tolerant technique for cloud components has become crucial. In this paper, a component ranking framework is needed for identifying critical components along with the ranking prediction framework for selecting optimal cloud services. Additionally, Kernel Principal Component Ranking approach is proposed to have better accuracy in selecting the significant values for identifying critical components. Subsequent to the component ranking, an optimal fault-tolerance strategy is also proposed to automatically
determine the strategy apt for identified critical cloud components. Thus metaheuristic algorithms are used for optimal fault tolerant strategy selection. The simulation results show that by tolerating faults of a minor fraction of the most critical components, the reliability of cloud applications can be greatly improved.

References

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Index Terms
Keywords
Cloud Computing  Ranking Prediction  Fault Tolerance