

- Title:** A comparative evaluation of state-of-the-art cloud migration optimization approaches
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- Abstract:** Cloud computing has become more attractive for consumers to migrate their applications to the cloud environment. However, because of huge cloud environments, application customers and providers face the problem of how to assess and make decisions to choose appropriate service providers for migrating their applications to the cloud. Many approaches have investigated how to address this problem. In this paper we classify these approaches into non-evolutionary cloud migration optimization approaches and evolutionary cloud migration optimization approaches. Criteria including cost, QoS, elasticity and degree of migration optimization have been used to compare the approaches. Analysis of the results of comparative evaluations shows that a Multi-Objectives optimization approach provides a better solution to support decision making to migrate an application to the cloud environment based on the significant proposed criteria. The classification of the investigated approaches will help practitioners and researchers to deliver and build solid approaches.