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Disaster Recovery and Business Continuity for Database Services in Multi-Cloud (Conference Paper)

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Abstract

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Cloud database services are used to reduce the cost of storage in information technology fields and provide other benefits such as data accessibility through internet. The single cloud is defined as a group of servers whether one or multiple data centres offered by a single provider. However, moving from single cloud to multi-clouds is reasonable and important for many reasons. The services of single clouds are still subject to outage which affects the availability of the database. In the case of disaster event, the single cloud is subject to data lost partially or fully. The single cloud is predicted to become less popular with customers due to risks of database service availability failure and the possibility of malicious insiders in the single cloud. With Disaster Recovery (DR) in cloud, resources of multiple cloud service providers can be utilized cooperatively by the DR service provider. Therefore, there is a necessity to develop a practical multi-cloud based DR framework with the aim of minimizing backup cost with respect to Recovery Time Objective (RTO) and Recovery Point Objective (RPO) in order to reduce the risk of data loss. The framework attempts to maintain the availability of data by achieving high data reliability, low backup cost, and short recovery and ensure continuity for business before, during and after the disaster incident. This paper aims at proposing a multi-cloud framework maintaining high availability of data before, during and after the disaster occurrence. Besides, ensures the continuity of the database services during and after the disaster. © 2018 IEEE.

Author keywords

Business Continuity Cloud computing Cloud Storage Disaster Recovery RPO RTO

Indexed keywords

Engineering controlled terms: Cloud computing Cost reduction Database systems Disasters Recovery Security of data

Engineering uncontrolled terms: Business continuity Cloud storages Data accessibility Disaster recovery High availability Malicious insiders Recovery point objectives Recovery time objectives

Engineering main heading: Digital storage

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