

Research Project

Cost-based replicated data management in the Cloud

Project funded by own resources

Project title Cost-based replicated data management in the Cloud

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Organisation / Research unit

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Status Completed

Distributed and replicated data management in the Cloud is governed by the CAP theorem. As a consequence of this theorem, many Cloud providers sacrifice data consistency for a high degree of availability. However, with the pay-as-you-go cost model of the Cloud where the use of each resource is charged at a very fine-grained level, the costs of an application are introduced as additional parameter for optimization. This can include the infrastructure costs (i.e., the resources needed for guaranteeing a certain degree of data consistency), but also inconsistency costs (i.e., costs that incur when a relaxed level of consistency is provided). In this work, we re-consider existing protocols for distributed data management and develop new protocols for cost-aware, dynamic and adaptable replicated data management in a Cloud environment.

Financed by

University funds

Follow-up Project of... [2192120 ClouDMan - Cost-based Data Management in Cloud Environments](#)

Add publication

Published results

1444472, Fetai, Ilir; Schuldt, Heiko, Cost-based adaptive concurrency control in the cloud, Publication: Other Publications (Forschungsberichte o. ä.)

1444515, Fetai, I.; Schuldt, H., Cost-based data consistency in a data-as-a-service cloud environment, 978-1-4673-2892-0, Publication: ConferencePaper (Artikel, die in Tagungsbänden erschienen sind)

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2301770, Fetai, Ilir; Brinkmann, Filip-Martin; Schuldt, Heiko, PolarDBMS: Towards a Cost-Effective and Policy-Based Data Management in the Cloud, Publication: ConferencePaper (Artikel, die in Tagungsbänden erschienen sind)

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3695540, Brinkmann, Filip-Martin; Fetai, Ilir; Schuldt, Heiko, SLA-basierte Konfiguration eines modularen Datenbanksystems für die Cloud, 978-3-658-11588-3, Big Data: Grundlagen, Systeme und Nutzungspotenziale, Publication: Book Item (Buchkap., Lexikonartikel, jur. Kommentierung, Beiträge in Sammelbänden etc.)

3695549, Fetai, Ilir, Cost- and Workload-based Data Management in the Cloud, Publication: Thesis (Dissertationen, Habilitationen)

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