

Graduiertenkolloquium Angewandte Informatik

Benchmarking Eventually Consistent Distributed Storage Systems

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Abstract:

Cloud storage services and NoSQL systems, which have recently found widespread adoption, typically offer only "Eventual Consistency", a rather weak guarantee covering a broad range of consistency behavior. The degree of actual (in-)consistency as a service quality, however, is unknown. As a consequence, the responsibilities imposed on application developers using an eventually consistent storage system are unknown. Furthermore, comparing the diverse cloud storage offerings and NoSQL systems against each other is difficult.

We argue for "Consistency Assessment" via benchmarking and simulation to address this problem. In this talk, we present a novel approach using consistency benchmarking, modeling and simulation as a means to predict the consistency guarantees of a distributed storage system. We also show, using a set of concrete examples, how the results can be used to efficiently handle inconsistencies within applications or in an additional middleware layer. Using our approach, consistency as a service quality is made transparent and becomes measurable, thereby providing important insight for any application that uses an eventually consistent storage system.

Termin: Mittwoch, 18. Dezember 2013, 17.30 Uhr

Ort: Englerstraße 11, 76131 Karlsruhe
Kollegiengebäude am Ehrenhof (Geb. 11.40), 2. OG, Raum 226
(Hinweise für Besucher: www.aifb.kit.edu/Kontakt)

Veranstalter: Institut AIFB, Forschungsgruppe Ökonomie und Technologie der eOrganisation

Zu diesem Vortrag lädt das Institut für Angewandte Informatik und Formale Beschreibungsverfahren alle Interessierten herzlich ein.

Andreas Oberweis Hartmut, Schmeck Detlef Seese, Wolffried Stucky, Rudi Studer, Stefan Tai (Org.),