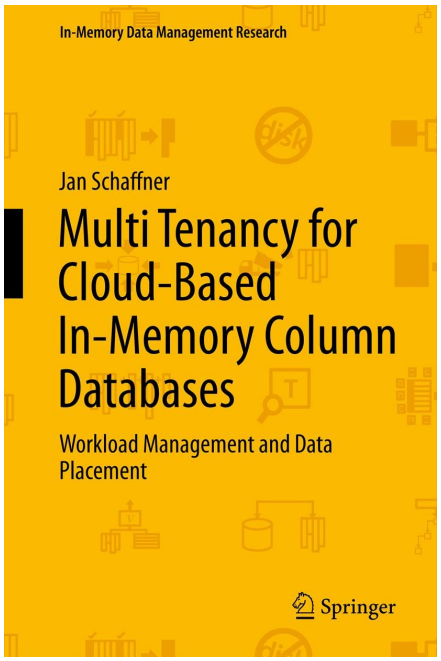

Springer

1. Auflage

2014, XIII, 128 p.

Gedrucktes Buch
Hardcover

Gedrucktes Buch
Hardcover
ISBN 978-3-319-00496-9
£ 89,99 | CHF 118,00 | 99,99 € | 109,99 € (A) | 106,99 € (D)
lieferbar

Rabattgruppe
Science (SC)

Produktkategorie
Monographie

Reihe
In-Memory Data Management Research

Other renditions
Softcover
ISBN 978-3-319-03344-0
Softcover
ISBN 978-3-319-00498-3

Betriebswirtschaftslehre : Wirtschaftsinformatik

Schaffner, Jan

Multi Tenancy for Cloud-Based In-Memory Column Databases

Workload Management and Data Placement

- A background chapter on column databases and multi tenancy summarizes the key concepts of these technologies in a compact manner
- A dedicated chapter on related work provides a detailed survey of the state of the art in workload management, data placement and multi tenant databases in general
- A validation of the algorithmic results is conducted using traces from a production data center running one of SAP's on-demand applications, and the particularities of such realistic data are being discussed and generalized

With the proliferation of Software-as-a-Service (SaaS) offerings, it is becoming increasingly important for individual SaaS providers to operate their services at a low cost. This book investigates SaaS from the perspective of the provider and shows how operational costs can be reduced by using "multi tenancy," a technique for consolidating a large number of customers onto a small number of servers. Specifically, the book addresses multi tenancy on the database level, focusing on in-memory column databases, which are the backbone of many important new enterprise applications. For efficiently implementing multi tenancy in a farm of databases, two fundamental challenges must be addressed, (i) workload modeling and (ii) data placement. The first involves estimating the (shared) resource consumption for multi tenancy on a single in-memory database server. The second consists in assigning tenants to servers in a way that minimizes the number of required servers (and thus costs) based on the assumed workload model. This step also entails replicating tenants for performance and high availability. This book presents novel solutions to both problems.

ISBN 978-3-319-00496-9 / BIC: KJQ / SPRINGER NATURE: SC522000