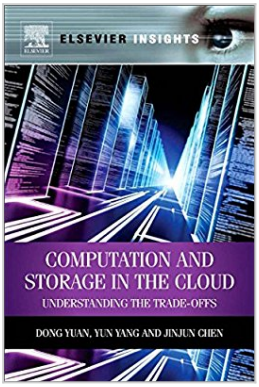


# Computation and Storage in the Cloud: Understanding the Trade-Offs (Elsevier Insights)

*By Dong Yuan, Yun Yang, Jinjun Chen*



**Computation and Storage in the Cloud: Understanding the Trade-Offs (Elsevier Insights)** By Dong Yuan, Yun Yang, Jinjun Chen

Computation and Storage in the Cloud is the first comprehensive and systematic work investigating the issue of computation and storage trade-off in the cloud in order to reduce the overall application cost. Scientific applications are usually computation and data intensive, where complex computation tasks take a long time for execution and the generated datasets are often terabytes or petabytes in size. Storing valuable generated application datasets can save their regeneration cost when they are reused, not to mention the waiting time caused by regeneration. However, the large size of the scientific datasets is a big challenge for their storage. By proposing innovative concepts, theorems and algorithms, this book will help bring the cost down dramatically for both cloud users and service providers to run computation and data intensive scientific applications in the cloud.

- Covers cost models and benchmarking that explain the necessary tradeoffs for both cloud providers and users
- Describes several novel strategies for storing application datasets in the cloud
- Includes real-world case studies of scientific research applications

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## Editorial Review

Review

*"Cloud computing systems charge for both data storage and for calculating, say Yuan, Yang…and Chen…, so there is a trade-off between storing large data sets in the cloud or deleting them and regenerating then each time they are needed. They suggest some approaches to figuring out which is cheaper… they cover motivating example and research issues, a cost model of data set storage in the cloud, minimum cost benchmarking approaches,…"--**ProtoView.com,** **January 2014** "Cloud computing systems charge for both data storage and for calculating, say Yuan, Yang….and Chen…so there is a trade-off between storing large data sets in the cloud or deleting them and regenerating then each time they are needed. They suggest some approaches to figuring out which is cheaper."--**Reference & Research Book News,** **December 2013** "…this book does a good job at tackling a variety of complex subjects. It brings forward state-of-the-art concepts and elaborate algorithms, illustrates issues related to cost-effectiveness, and helps both cloud providers and users get a grip on the intricate world of cloud computing."--**Help Net Security online,** **August 28, 2013***

From the Back Cover

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