分布式算法讲义

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素材

YCSB [6, 1]

计算模型的基础是抽象。首先介绍各种抽象。然后介绍由各种不同抽象，组合而来的各种模型 [4]。

process groups，group membership。

virtual synchrony。

[5] (第六章)

Process groups are a powerful tool for the developer. They can have names, much like files, and this allows them to be treated like topics in a publish-subscribe system.

One thinks of a process group as a kind of object (abstract data type), and the processes that join the group as importing a replica of that object. Virtual synchrony standardizes the handling of group membership: the system tracks group members, and informs members each time the membership changes, an event called a view change.

[2]

多数据中心平台，从硬件设施，到软件基础设施(infrastructure)的介绍。

[3]

对于cloud data store的介绍。

分布式系统中(主要是cloud data store中)对于ordering of events的tracking。弱一致系统，强一致系统中的clock的设计。

参考文献

[1] `https://github.com/brianfrankcooper/YCSB`.

[2] Luiz Andre Barroso, Urs Holzle, Parthasarathy Ranganathan, and Margaret Martonosi. *The Datacenter As a Computer: Designing Warehouse-Scale Machines*. Morgan & Claypool Publishers, 3rd edition, 2018.

[3] Manuel Bravo, Nuno Diegues, J. Zeng, Paolo Romano, and Luís Rodrigues. On the use of clocks to enforce consistency in the cloud. *IEEE Data Eng. Bull.*, 38:18–31, 01 2015.

[4] Christian Cachin, Rachid Guerraoui, and Lus Rodrigues. *Introduction to Reliable and Secure Distributed Programming*. Springer Publishing Company, Incorporated, 2nd edition, 2011.

[5] Bernadette Charron-Bost, Fernando Pedone, and André Schiper, editors. *Replication: Theory and Practice*. Springer-Verlag, Berlin, Heidelberg, 2010.

[6] Brian F. Cooper, Adam Silberstein, Erwin Tam, Raghu Ramakrishnan, and Russell Sears. Benchmarking cloud serving systems with ycsb. In *Proceedings of the 1st ACM Symposium on Cloud Computing*, SoCC '10, pages 143–154, New York, NY, USA, 2010. ACM.