

1 Exercises: Consistency

1. Discuss the reasons for data replication in distributed systems and challenges associated herewith
2. Discuss the CAP and PACELC theorems and clarify how it relates to replication and consistency in distributed systems
3. Discuss the need for augmenting CAP with PACELC
4. Discuss the differences between strong and weak consistency
5. Discuss the need for weak consistency
6. Discuss the strong “linearizable consistency” model
7. Discuss the weak “eventual consistency” model
8. Discuss the eventual consistency model variations (see reading by Werner Vogels)
 - Causal consistency
 - Read your writes consistency
 - Session consistency
 - Monotonic read consistency
 - Monotonic write consistency