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Failure — Atomicity

Two-phase locking

Recov.: Never modify only copy

Isolation → Serializability Locks

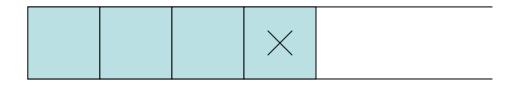
read x write y

comput'n
COMMIT()

Deadlocks

- 1) Timers
- 2) Waits for graph

Logs & Locks

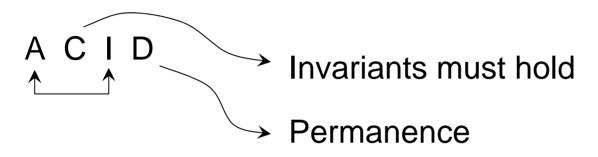


Applications

TransactionsDurability

2) Multi-site atomicity

Transactions



Centralized

Integrity rules

SID	Name	DeptID
35		43

Dept name

Distributed Data

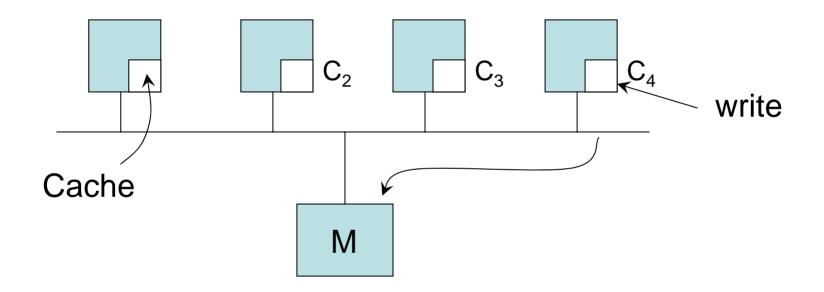
- DNS → Expiration time
- Web caches

→"if-modified-since"

Strong cons:

Read returns result of last write

Eventual consistency



- 1) Write-thru cache
- 2) Snoopy cache