

Lecture 13: Distributed Transactions

Notes adapted from Tanenbaum's
“Distributed Systems Principles
and Paradigms”

Hypothetical Web Service Transaction

Begin transaction BookTrip

book plane

book hotel

book rental car

End transaction BookTrip

Transactions (ACID)

- **Atomic:** All or nothing. No intermediate states are visible.
- **Consistent:** system invariants preserved, e.g., if there were n dollars in a bank before a transfer transaction then there will be n dollars in the bank after the transfer.
- **Isolated:** Two transactions do not interfere with each other. They appear as serial executions.
- **Durable:** The commit causes a permanent change.