Discussion 04
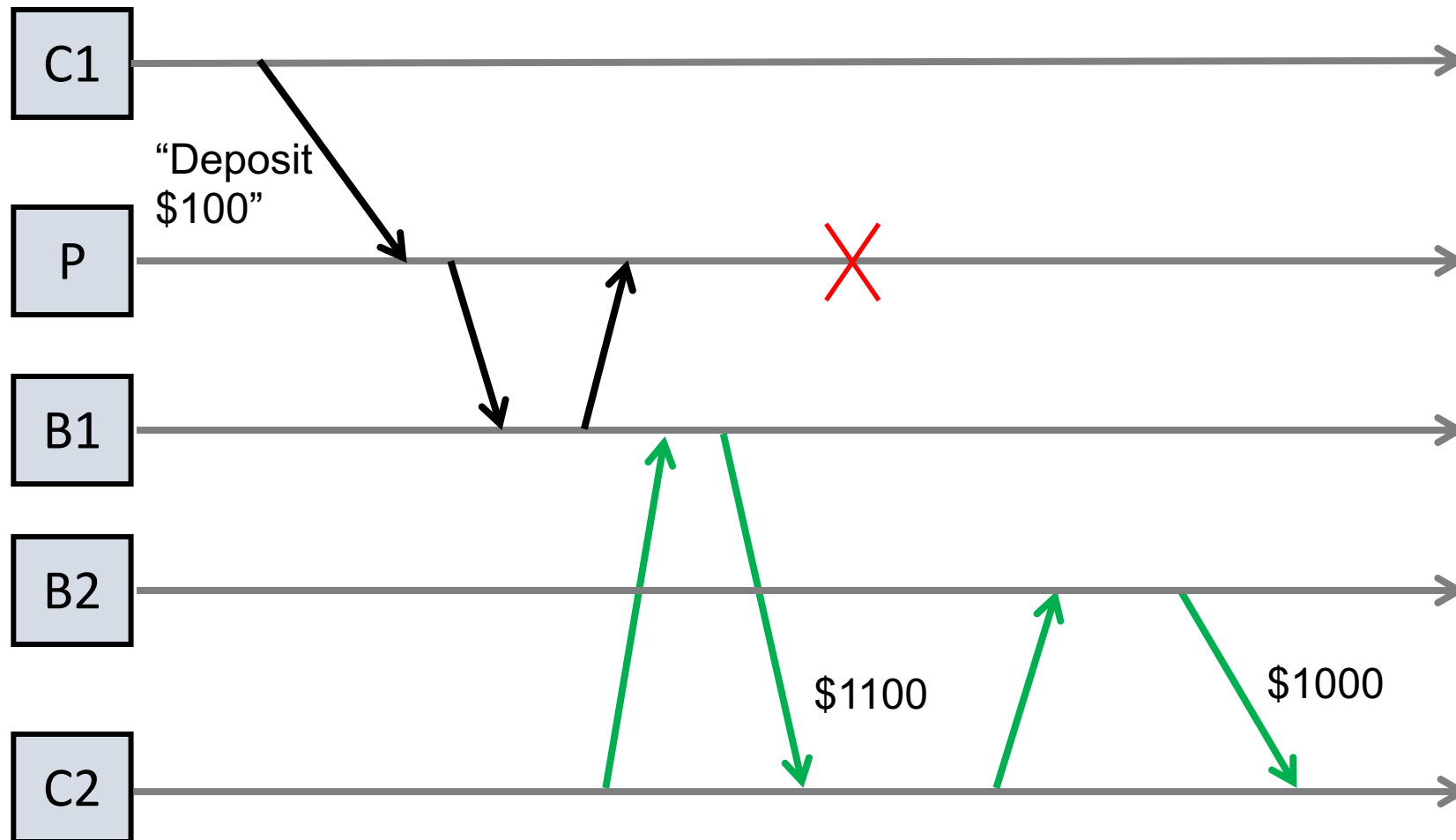
Spring 2019 – CS 188

Section 2B

Example 1: Handling Reads at backup
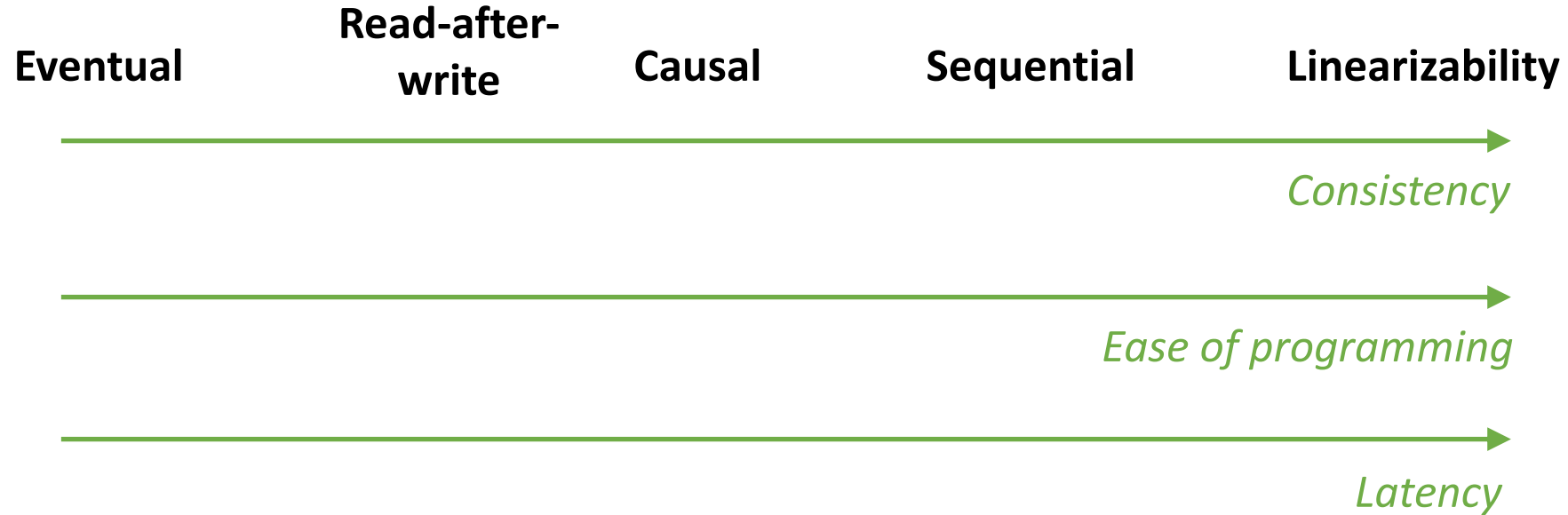
Reads relative to Writes

C1

P

B

C2

"Deposit $100"

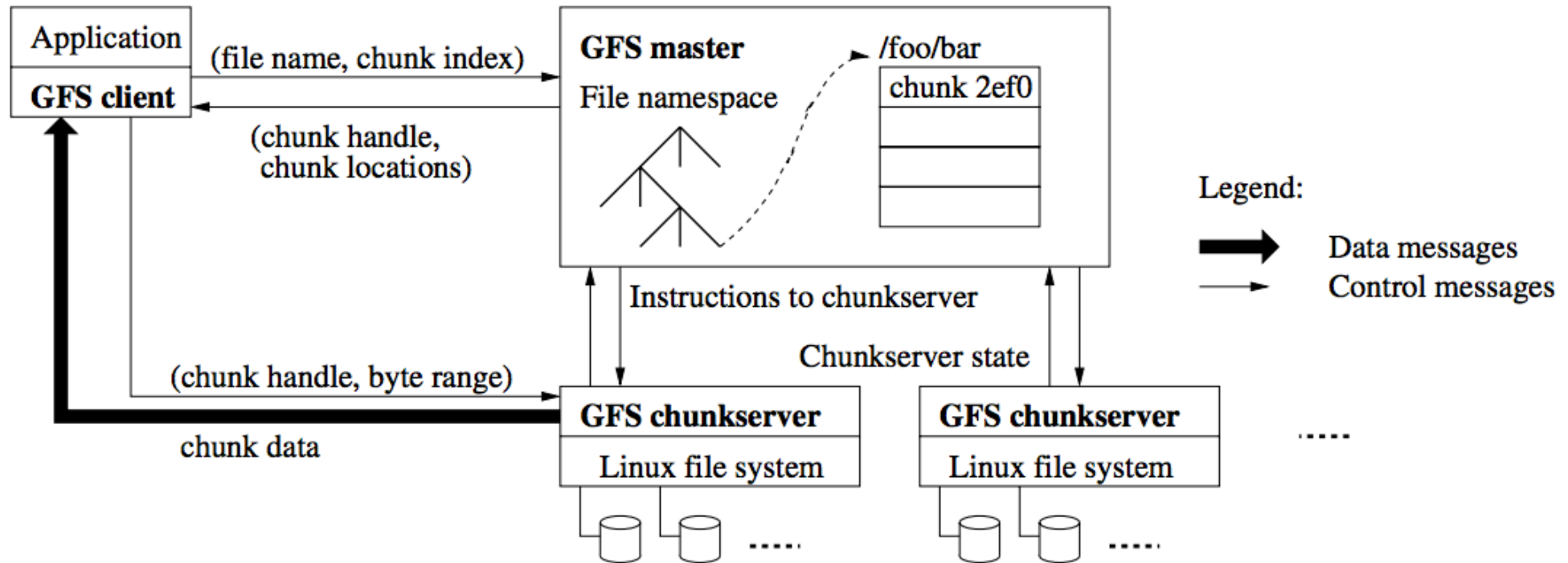"Pay 1% interest"

$1100

$1111
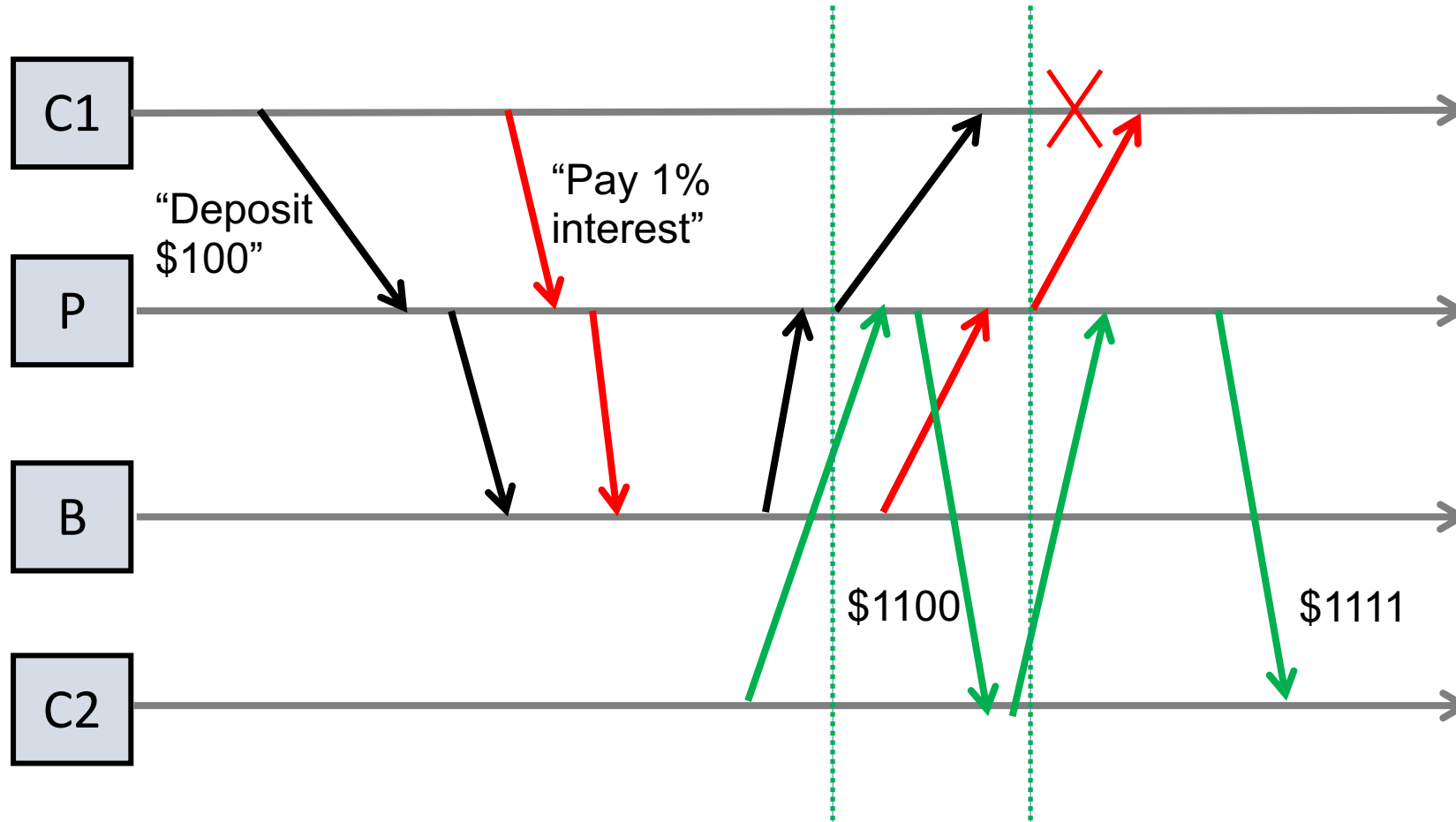
Linearizability

- Properties
  - Total ordering of writes
  - Read returns last completed write

- Single copy semantics
  - Externally visible effects of writes and reads are equivalent to if there existed a single copy
  - Users oblivious to replication

Consistency Spectrum

Eventual   **Read-after-write**   **Causal**   **Sequential**   **Linearizability**

→ *Consistency*

→ *Ease of programming*

→ *Latency*

No silver bullet!

GFS: overview

GFS: data flow vs. control flow