

Concurrent Accesses in DFS

- **One-copy update** semantics: when file is replicated, its contents, as visible to clients, are no different from when the file has exactly 1 replica
- At most once operation vs. At least once operation
 - Choose carefully
 - At most once, e.g., append operations cannot be repeated
 - *Idempotent* operations have no side effects when repeated: they can use at least once semantics, e.g., read at absolute position in file