

# **Log-structured storage is a foundational building block of safe, distributed systems.**

- Provides strict ordering of writes
  - Immutable log of every change
- Ability to revert to any point in time

See: redux, CouchDB, Redis

But log-structured tables make  
locking hard...

Because any new row added can change the total,  
we'd have to lock the entire BalanceTransfer  
table to prevent concurrent processes from  
adding new transfers that change the total.

How else can we prevent  
concurrent writes from changing a  
user's balance?