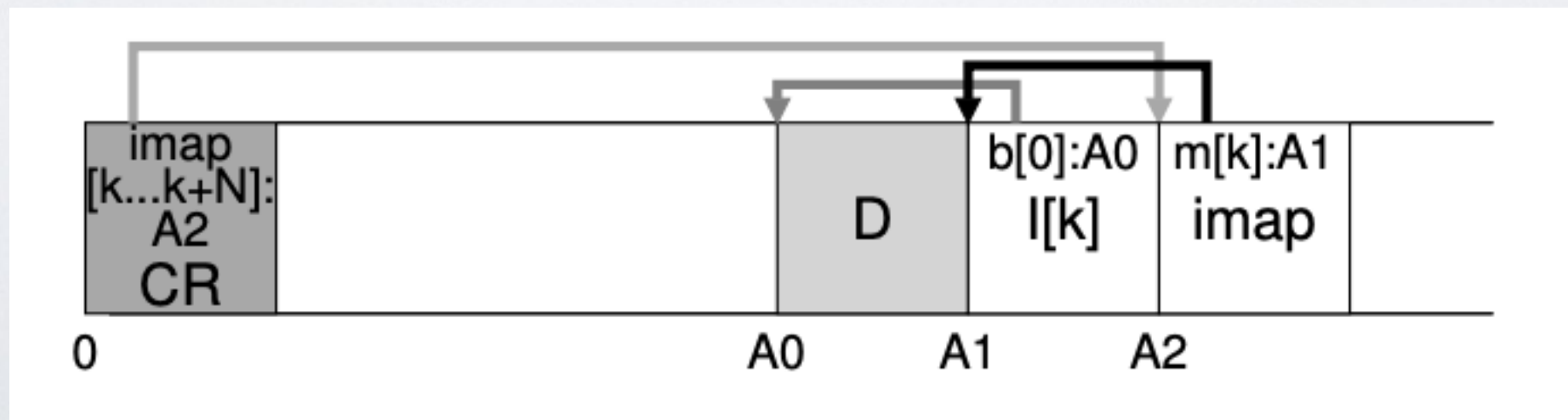# LFS - how to find the inode map?

The OS must have some fixed and known location on disk to begin a file lookup

➡ The check-point region (CR) contains a pointer to the latest pieces of the inode map

✓ The CR is updated periodically (every 30 sec or so) to avoid degrading the performances

imap [k...k+N]: A2 CR			D	b[0]:A0 I[k]	m[k]:A1 imap	

0   A0   A1   A2

LFS - Crash recovery

The check-point region (CR) must be updated atomically

➡ LFS keeps two CRs and writing a CR is done in 3 steps

    1. writes out the header with a timestamp #1

    2. writes the body of the CR

    3. writes one last block with another timestamp #2

✓ Crash can be detected if timestamp #1 is after #2

✓ LFS will always choose the most recent and valid CR

✓ All logs written after a successful CR update will be lost in case of a crash