Figure 1: System Architecture

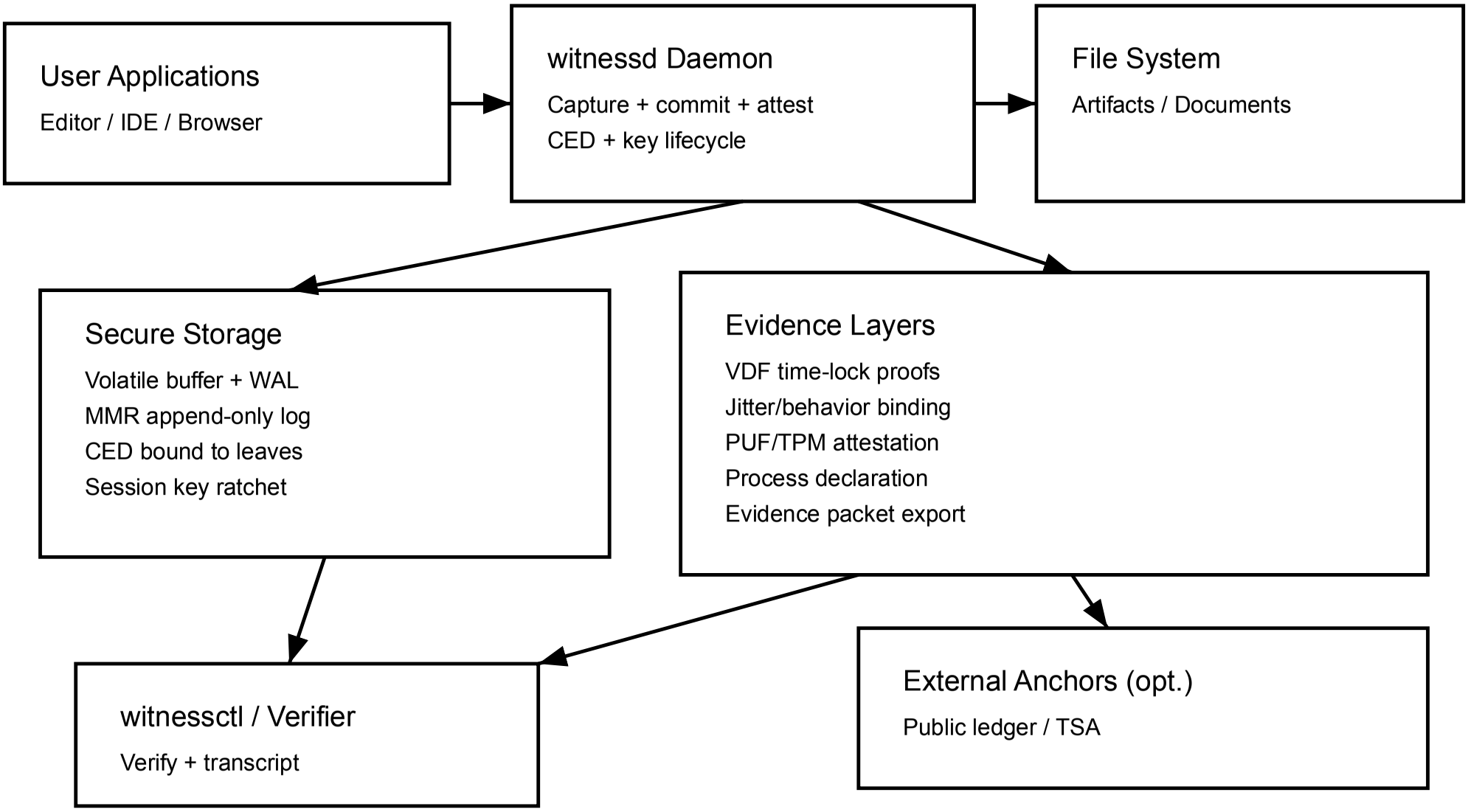


Figure 2: Commitment Event (Buffer → MMR)

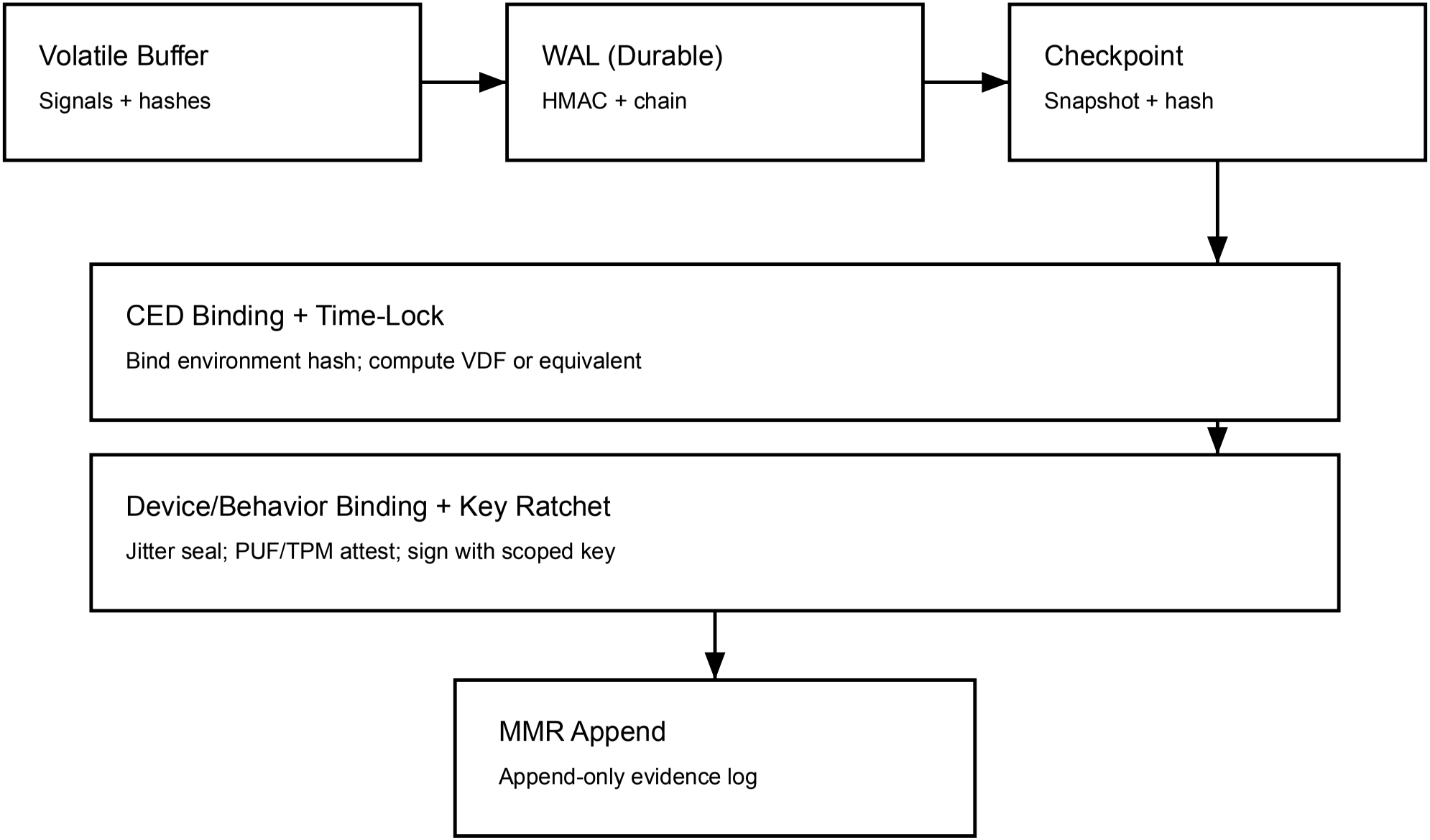
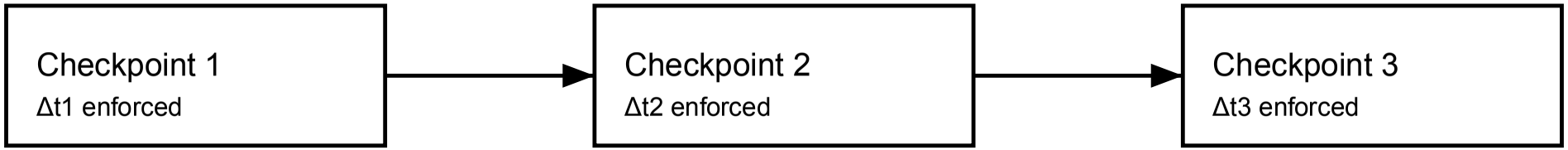


Figure 3: Time-Locked Checkpoint Chain



Each checkpoint includes a time-lock proof bound to prior state
so later checkpoints can’t be inserted earlier without detection