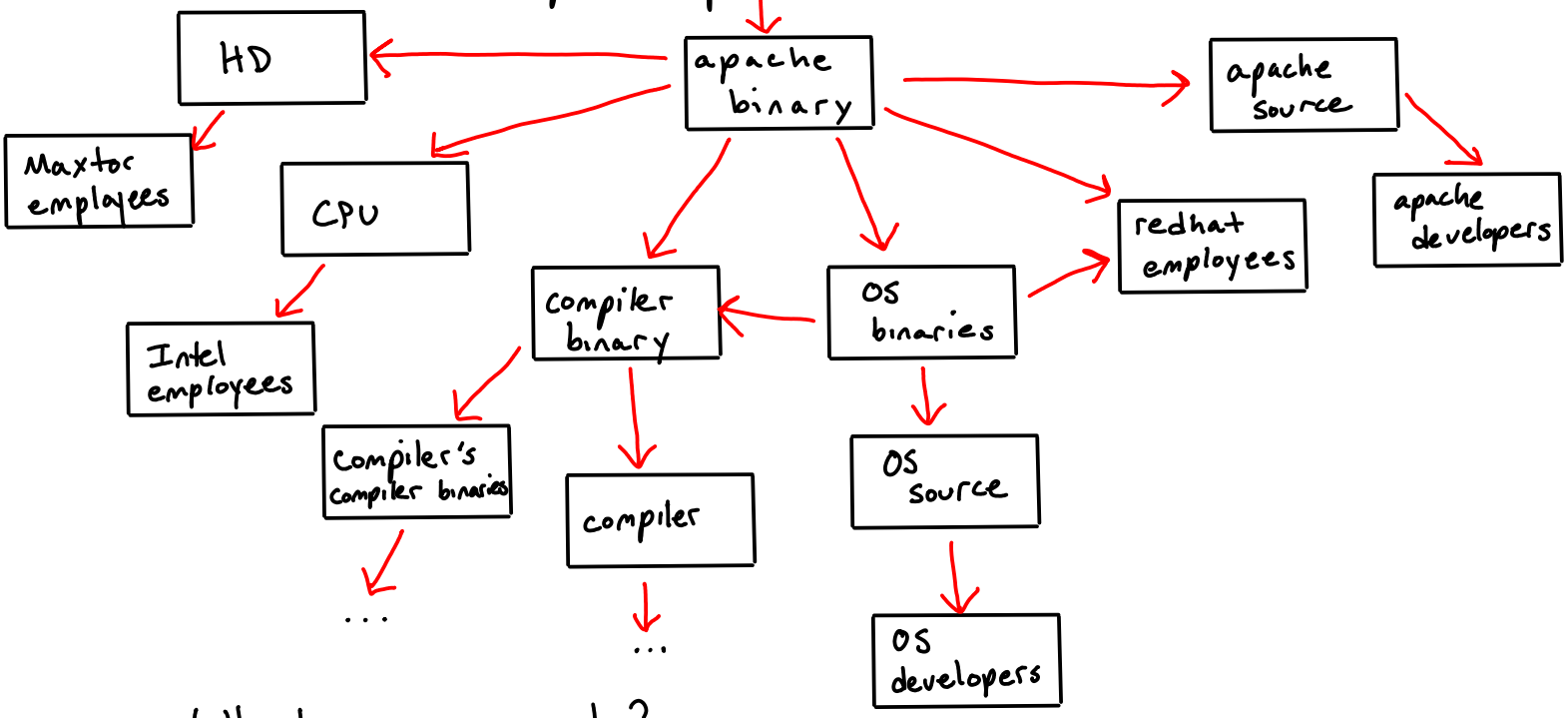
Full disclosure - treatise on locks

Trust == dependence == bad  problem: transitive trust

example: Apache enforces .htraces




What can we do?

① brute force: do it yourself

② Policies can reduce how many you need to trust
- solves trusting every piece of code ever run on CPU
- still has problem of trusting every Maxtor employee

③ Prioritize

④ Redundancy: buy Maxtor, WD, Seagate; run and compare
- before: vulnerable to single failure
- after: vulnerable only to multiple failure

**Rule: Keep the TCB small**

"Trusted Computing Base" (TCB)

**Rule: Economy of mechanism** (keep it simple)

100 lines of code more secure than 10,000 lines

short code can be proven correct

e.g. passwords in flat file

**Rule: Failsafe defaults**

default **deny** vs default **allow**

- default allow fails silently - you'll never know
  - requires list of all bad things
- default deny fails loudly - people complain

**Rule: Least privilege**

give each process/user least amount of power to do job

**Rule: Complete mediation**

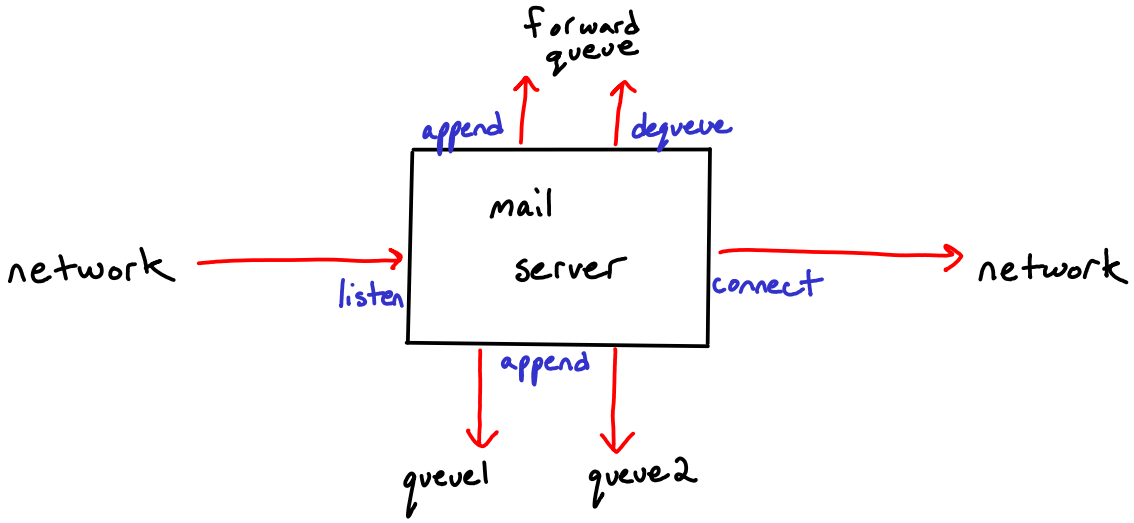
if you want to restrict access to an object, you must restrict accessing that object

Unix: open/read? broke the rule for efficiency

**Rule: Separation of privilege**

two people in different rooms must turn key at same time to launch nuclear bomb

mail server




Preventing a worm – separation of privilege