CPCC

→ Time based covert channel attack in shared cache

→ Lets assume we are using UCP.

td:du → Prime + Probe attack of DSS sets in DSS sets.

Step 1: Spy will request target sets. This will result in alot of miss. Now UCP will increase the partitioning.

Step 2: Prime: Spy will fill the partition with a known set!

Step 3: Wait: Spy will do nothing

Bit 1

Trojan will do nothing

Bit 0

→ Trojan will fill the DSS set, resulting in miss
→ UCP will increase partition
→ Trojan will overwrite the spy's blocks

Step 4: Probe: Spy will request for its blocks.

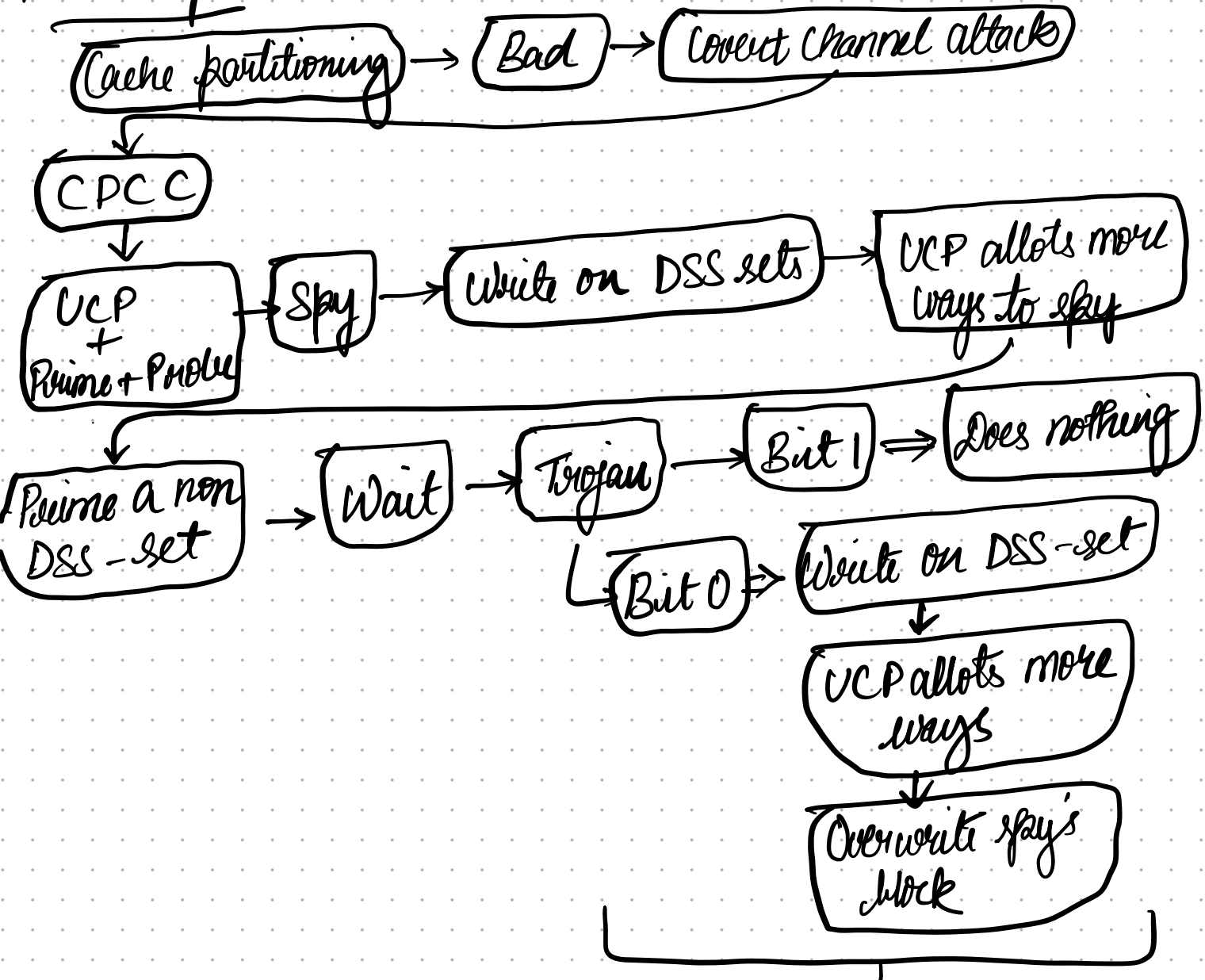
→ If it takes less time ⇒ all hit ⇒ Bit 1

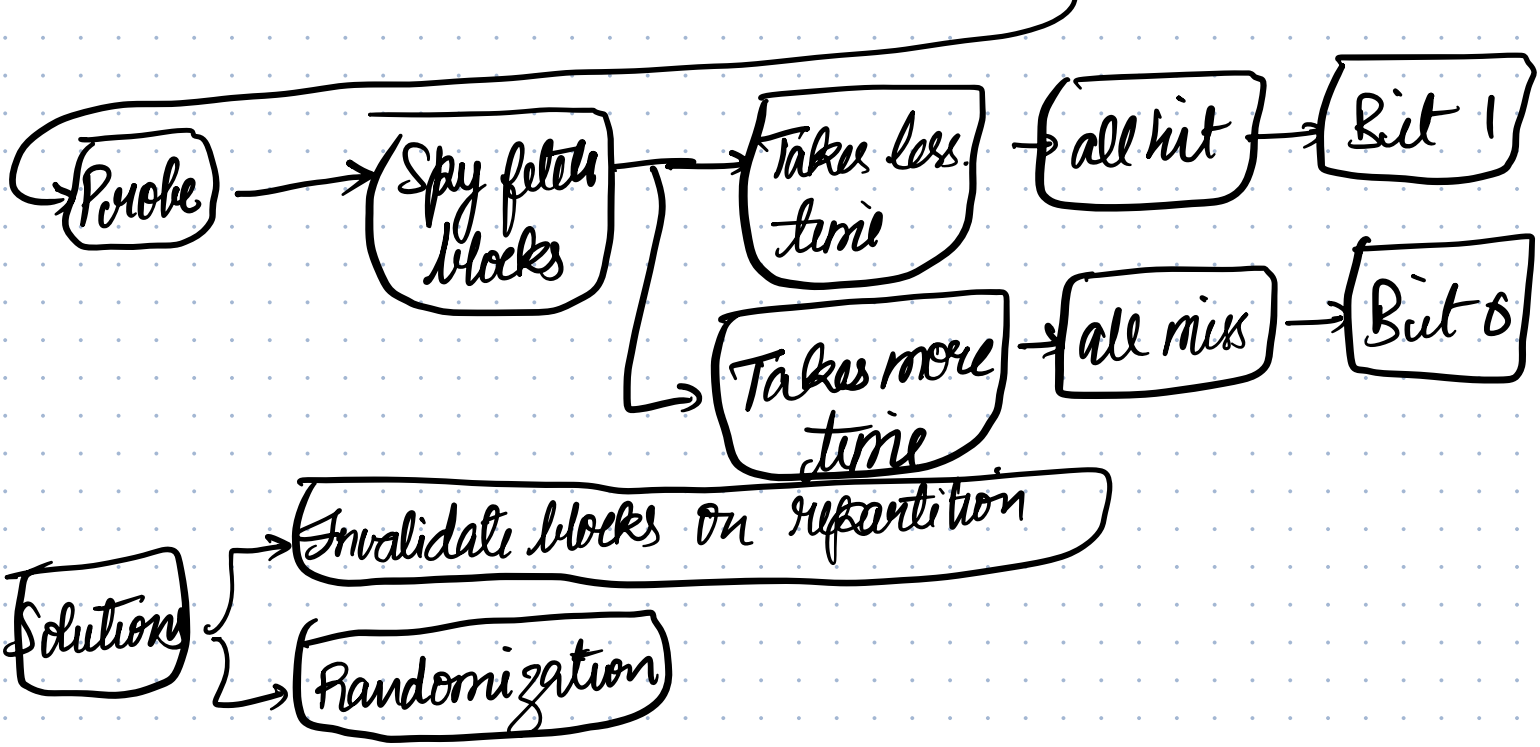
→ If it takes more time ⇒ all miss ⇒ Bit 0.

Solutions: → Invalidate ⇒ Invalidate block on re-partition

→ Randomization

Mindmap:




Probe
Spy fetch blocks
Takes less time
all hit
Bit 1
Takes more time
all miss
Bit 0

Solutions
Invalidate blocks on repartition
Randomization