№ 1

$S = (B + AD + BD)(AC + BCD) = BAC + BBCD + ADAC + ADBCD = ABC + BCD + ACD + ABCD$

$S = ABC + ACD + BCD$ – мин. сечения

$SA = ABC + ACD + ABCD = A(BC + CD)$

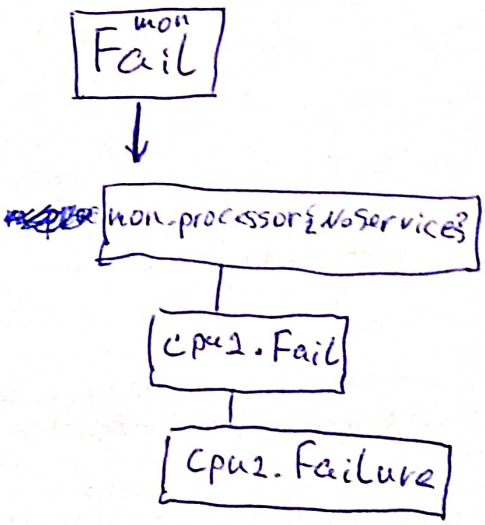
$P(S|A) = \frac{P(SA)}{P(A)} = \frac{P(A)\,P(BC+CD)}{P(A)} = P(C)\,(P(B) + P(D)) = 10^{-6} \cdot (10^{-4} + 10^{-4}) = 2 \cdot 10^{-10}$

$S\bar{A} = \bar{A}ABC + \bar{A}ACD + \bar{A}BCD = \bar{A}BCD$

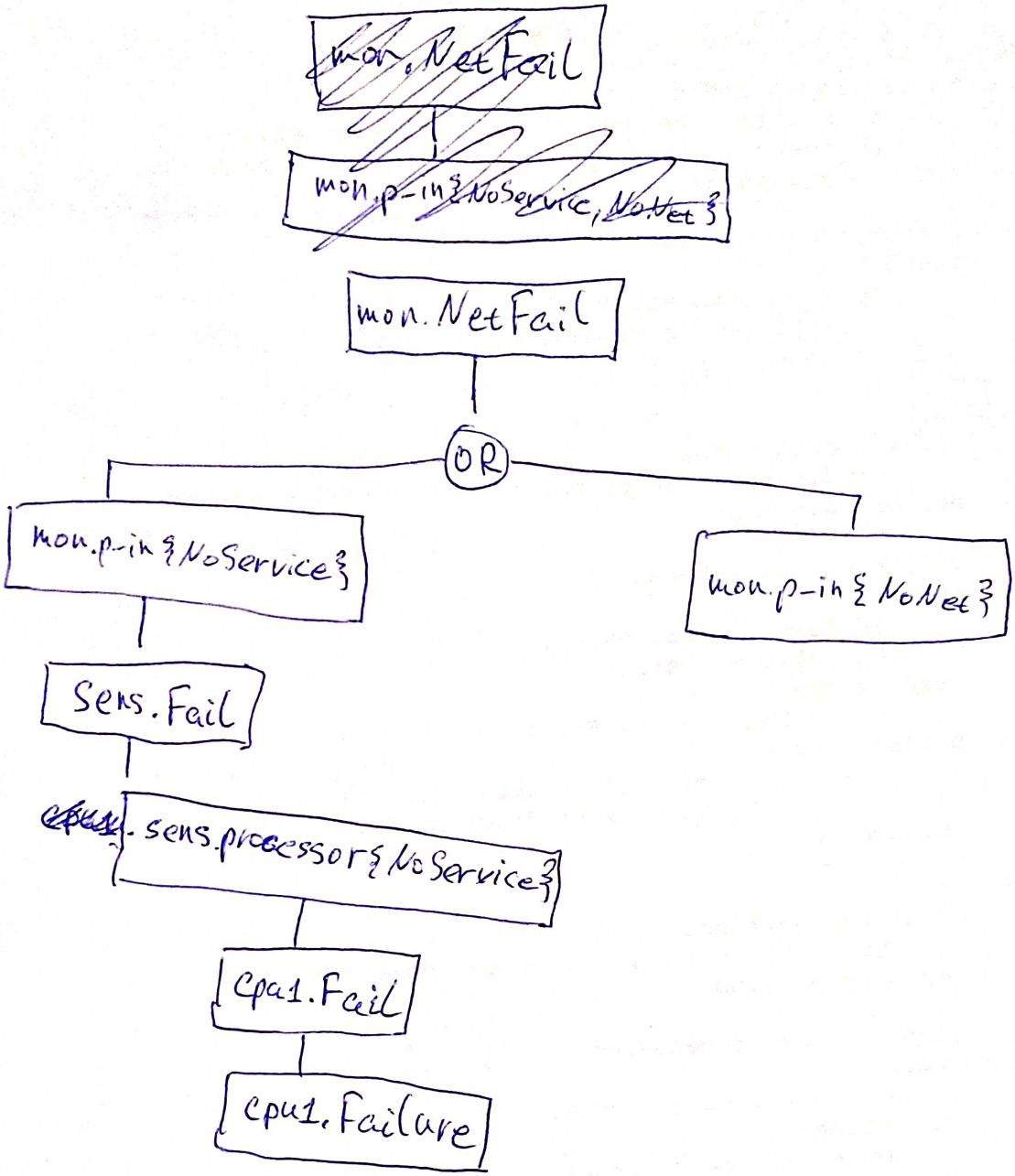
$P(S|\bar{A}) = \frac{P(S\bar{A})}{P(\bar{A})} = \frac{P(\bar{A})\,P(BCD)}{P(\bar{A})} = P(BCD) = 10^{-4} \cdot 10^{-6} \cdot 10^{-4} = 10^{-14}$

Birnbaum = $P(S|A) - P(S|\bar{A}) = 2 \cdot 10^{-10} - 10^{-14}$

№ 2



v2


mon.NetFail
mon.p-in{NoService, NoNet}
mon.NetFail
OR
mon.p-in{NoService}
mon.p-in{NoNet}
Sens.Fail
sens.processor{NoService}
cpu1.Fail
cpu1.Failure