

4-byte word

addrs
transltd
without
TLB

$$350 + 190 + 180 + 400 + 190 + 25$$

PC = IFID (1) (given)

$$P \propto 6 (0.6 \times 2f + 0.2 \times 5 + 0.1 \times 1 + 0.05 \times 2 + 0.05 \times 1)$$

24N 23N
3.16 2.85

① ①
2-4
0-4 2
~~2-4 103~~

if1 if2 if3 id $\boxed{\overset{x}{Ex}}$ Mem1 Mem2 Mem3 wr

32 entries $k=5$

$m=2, n=2$

2 bits \Rightarrow 4 entries

$4 \times 2 \times 32$

no hazard

RAW hazard

Op FWD
(stall)

RAW

Op FWD
no need stall

R