

$$\text{VarA} = \text{LW} + \text{SW} + \text{ADD} + \text{SUB} + \text{AND} + \text{OR} + \text{XOR} + \text{MUL} + \text{DIV} + \text{ADDI} + \text{SLLI} + \text{SRLI}$$

$$\text{VarB} = \text{LW} + \text{SW} + \text{ADD} + \text{SUB} + \text{AND} + \text{OR} + \text{XOR} + \text{MUL} + \text{DIV} + \text{ADDI} + \text{SLLI} + \text{SRLI} + \text{BEQ} + \text{BNE}$$

$$\text{VarC} = \text{ADD} + \text{SUB} + \text{AND} + \text{OR} + \text{XOR} + \text{MUL} + \text{DIV} + \text{ADDI} + \text{SLLI} + \text{SRLI}$$

$$\text{VarD} = \text{W3} * \text{T0} * (\text{LW} + \text{SW})$$

$$\text{PCADDI} = \text{W1} * \text{T3}$$

$$\text{M} = \text{W2} * \text{T2} * (\text{AND} + \text{OR} + \text{XOR})$$

$$\text{S3} = \text{W2} * \text{T2} * (\text{LW} + \text{SW} + \text{ADD} + \text{AND} + \text{OR} + \text{ADDI})$$

$$\text{S2} = \text{W2} * \text{T2} * (\text{SUB} + \text{OR} + \text{XOR} + \text{BEQ} + \text{BNE})$$

$$\text{S1} = \text{W2} * \text{T2} * (\text{SUB} + \text{AND} + \text{OR} + \text{XOR} + \text{BEQ} + \text{BNE})$$

$$\text{S0} = \text{W2} * \text{T2} * (\text{LW} + \text{SW} + \text{ADD} + \text{AND} + \text{ADDI})$$

$$\text{CN} = \text{W2} * \text{T2} * (\text{LW} + \text{SW} + \text{ADD} + \text{ADDI})$$

$$\begin{aligned} \text{CPRC3} &= \text{W1} * \text{T1} + \text{W2} * \text{T1} * (\text{LW} + \text{SW} + \text{ADD} + \text{SUB} + \text{AND} + \text{OR} + \text{XOR} + \text{MUL} + \text{DIV} + \text{ADDI} + \text{SLLI} \\ &+ \text{SRLI} + \text{BEQ} + \text{BNE}) + \text{W3} * \text{T0} * (\text{LW} + \text{SW}) \end{aligned}$$

$$= \text{W1} * \text{T1} + \text{W2} * \text{T1} * \text{VarB} + \text{VarD}$$

$$\begin{aligned} \text{CPRC2} &= \text{W1} * \text{T3} + \text{W2} * ((\text{T0} + \text{T2}) * (\text{LW} + \text{SW} + \text{ADD} + \text{SUB} + \text{AND} + \text{OR} + \text{XOR} + \text{MUL} + \text{DIV} + \\ &\text{ADDI} + \text{SLLI} + \text{SRLI}) + \text{T3} * \text{JR} + (\text{T0} + \text{T2} + \text{T3}) * (\text{BEQ} + \text{BNE})) \end{aligned}$$

$$= \text{W1} * \text{T3} + \text{W2} * ((\text{T0} + \text{T2}) * \text{VarB} + \text{T3} * (\text{JR} + \text{BEQ} + \text{BNE}))$$

$$\begin{aligned} \text{CPRC1} &= \text{W1} * (\text{T1} + \text{T2}) + \text{W2} * ((\text{T1} + \text{T2}) * (\text{LW} + \text{SW} + \text{ADD} + \text{SUB} + \text{AND} + \text{OR} + \text{XOR} + \text{MUL} + \text{DIV} \\ &+ \text{ADDI} + \text{SLLI} + \text{SRLI} + \text{BEQ} + \text{BNE})) + \text{W3} * \text{T0} * (\text{LW} + \text{SW}) \end{aligned}$$

$$= \text{W1} * (\text{T1} + \text{T2}) + \text{W2} * ((\text{T1} + \text{T2}) * \text{VarB}) + \text{VarD}$$

$$\begin{aligned} \text{CPRC0} &= \text{W1} * (\text{T0} + \text{T1} + \text{T2}) + \text{W2} * (\text{T3} * (\text{LW} + \text{SW}) + \text{T0} * (\text{LW} + \text{SW} + \text{ADD} + \text{SUB} + \text{AND} + \text{OR} + \\ &\text{XOR} + \text{MUL} + \text{DIV} + \text{ADDI} + \text{SLLI} + \text{SRLI} + \text{BEQ} + \text{BNE})) + \text{W3} * \text{T0} * (\text{LW} + \text{SW}) \end{aligned}$$

$$= \text{W1} * (\text{T0} + \text{T1} + \text{T2}) + \text{W2} * (\text{T3} * (\text{LW} + \text{SW}) + \text{T0} * \text{VarB}) + \text{VarD}$$

$$\begin{aligned} \text{CPRRt} &= \text{W2} * (\text{T0} * \text{LUI} + \text{T3} * (\text{ADD} + \text{SUB} + \text{AND} + \text{OR} + \text{XOR} + \text{MUL} + \text{DIV} + \text{ADDI} + \text{SLLI} + \text{SRLI})) + \\ &\text{W3} * \text{T1} * \text{LW} \end{aligned}$$

$$= \text{W2} * (\text{T0} * \text{LUI} + \text{T3} * \text{VarC}) + \text{W3} * \text{T1} * \text{LW}$$

$$\text{CPRRs} = 0$$

$$\text{EC3} = \text{W1} * \text{T2} + \text{W3} * \text{T1} * \text{LW}$$

$$\text{EC2} = \text{W2} * \text{T3} * (\text{LW} + \text{SW} + \text{ADD} + \text{SUB} + \text{AND} + \text{OR} + \text{XOR} + \text{MUL} + \text{DIV} + \text{ADDI} + \text{SLLI} + \text{SRLI})$$

$$= \text{W2} * \text{T3} * \text{VarA}$$

$$\text{EC1} = \text{W1} * \text{T0} + \text{W2} * (\text{T0} * (\text{LUI} + \text{ADDI} + \text{SLLI} + \text{SRLI}) + \text{T1} * (\text{LW} + \text{SW})) + \text{T3} * (\text{BEQ} + \text{BNE}))$$

$$\text{EC0} = \text{W1} * \text{T0}$$

$$\begin{aligned} \text{ERt} &= \text{W2} * \text{T1} * (\text{ADD} + \text{SUB} + \text{AND} + \text{OR} + \text{XOR} + \text{MUL} + \text{DIV} + \text{ADDI} + \text{SLLI} + \text{SRLI} + \text{BEQ} + \text{BNE}) + \\ &\text{W3} * \text{T0} * \text{SW} \end{aligned}$$

$$= W2 * T1 * (VarC + BEQ + BNE) + W3 * T0 * SW$$

$$ERs = W2 * T0 * (LW + SW + ADD + SUB + AND + OR + XOR + MUL + DIV + BEQ + BNE) + W2 * T3 * JR$$

$$RD/WR = W3 * T0 * SW$$