MIPS PIPELINE

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| Instr/Clk | CC1 | CC2 | CC3 | CC4 | CC5 | CC6 | CC7 | CC8 | CC9 | CC10 | CC11 | CC12 | CC13 | CC14 | CC15 | CC16 |
| add $3, $1, $2 | IF | ID | EX | MEM | WB($1) |  |  |  |  |  |  |  |  |  |  |  |
| sll $4, $3, 1 |  | IF | ID($1) | EX | MEM | WB |  |  |  |  |  |  |  |  |  |  |
| add $7, $5, $6 |  |  | IF | ID | EX | MEM | WB($7) |  |  |  |  |  |  |  |  |  |
| srl $2, $7, 1 |  |  |  | IF | ID($7) | EX | MEM | WB($2) |  |  |  |  |  |  |  |  |
| sub $5, $4, $2 |  |  |  |  | IF | ID($2) | EX | MEM | WB($5) |  |  |  |  |  |  |  |
| xor $0, $0, $0 |  |  |  |  |  | IF | ID | EX | MEM | WB |  |  |  |  |  |  |
| beq $5, $0, 0000010 |  |  |  |  |  |  | IF | ID($5) | EX | MEM | WB |  |  |  |  |  |
| addi $1, $5, 0000010 |  |  |  |  |  |  |  | IF | ID($5) | EX | MEM | WB |  |  |  |  |
| j 0000000001010 |  |  |  |  |  |  |  |  | IF | ID | EX | MEM | WB |  |  |  |
| addi $1, $5, 0000101 |  |  |  |  |  |  |  |  |  | IF | ID | EX | MEM | WB($1) |  |  |
| sw $1, 0($0) |  |  |  |  |  |  |  |  |  |  | IF | ID($1) | EX | MEM | WB |  |
| lw $6, 0($0) |  |  |  |  |  |  |  |  |  |  |  | IF | ID | EX | MEM | WB |

* Hazard de date intre instructiunile add $3, $1, $2 si sll $4, $3, 1
* Hazard de date intre instructiunile add $7, $5, $6 si srl $2, $7, 1
* Hazard de date intre instructiunile sub $5, $4, $2 si beq $5, $0, 0000010
* Hazard structural intre instructiunile sub $5, $4, $2 si addi $1, $5, 0000010
* Hazard de date intre instructiunile addi $1, $5, 0000101 si sw $1, 0($0)
* Hazard de control la instructiunile beq $5, $0, 0000010 si j 0000000001010

Eliminare hazarduri: (cele structurale au fost rezolvate prin modificarea registrului RF astfel incat scrierea sa se faca in mijlocul perioadei de ceas)

add $3, $1, $2

xor $0, $0, $0

xor $0, $0, $0

sll $4, $3, 1

add $7, $5, $6

xor $0, $0, $0

xor $0, $0, $0

srl $2, $7, 1

xor $0, $0, $0

xor $0, $0, $0

sub $5, $4, $2

xor $0, $0, $0

xor $0, $0, $0

beq $5, $0, 0000110

xor $0, $0, $0

xor $0, $0, $0

xor $0, $0, $0

addi $1, $5, 0000010

j 0000000010111

xor $0, $0, $0

addi $1, $5, 0000101

xor $0, $0, $0

xor $0, $0, $0

sw $1, 0($0)

lw $6, 0($0)