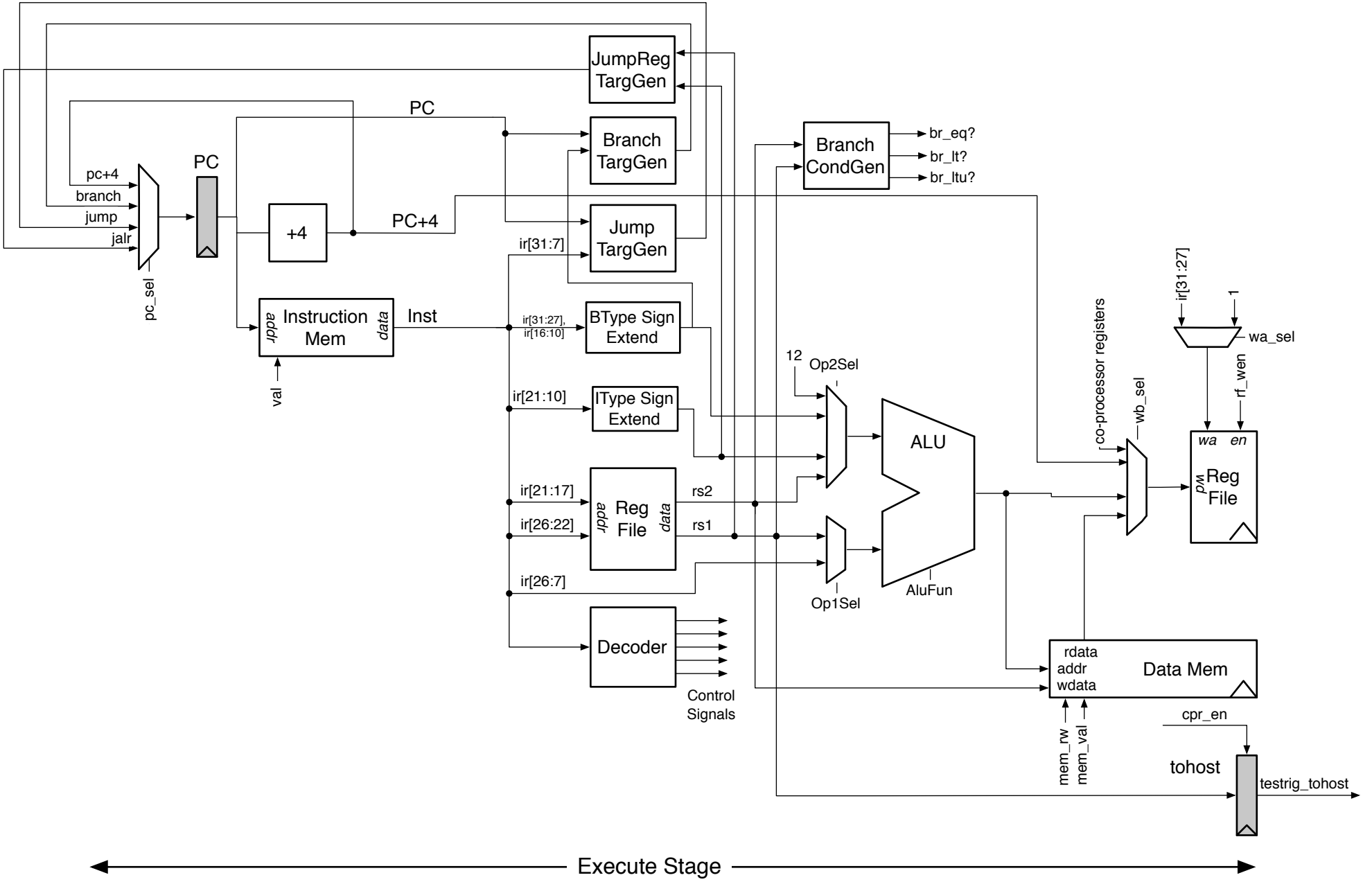
JumpReg TargGen
PC
Branch TargGen
Branch CondGen
br_eq?
br_lt?
br_ltu?
pc+4
branch
jump
jalr
PC
+4
PC+4
Jump TargGen
ir[31:7]
pc_sel
addr
Instruction Mem
data
Inst
val
ir[31:27], ir[16:10]
BType Sign Extend
12
Op2Sel
ir[21:10]
IType Sign Extend
ALU
co-processor registers
wb_sel
ir[31:27]
1
wa_sel
rf_wen
wa
en
wd
Reg File
ir[21:17]
ir[26:22]
addr
Reg File
data
rs2
rs1
ir[26:7]
Op1Sel
AluFun
Decoder
Control Signals
rdata
addr
wdata
Data Mem
cpr_en
mem_rw
mem_val
tohost
testrig_tohost
Execute Stage