ERISC processor Figure /models07/ERISC

# of LISA operations = Proc. No. + 4, i.e., ERISC1->5 Op. … ERISC 13-> 17

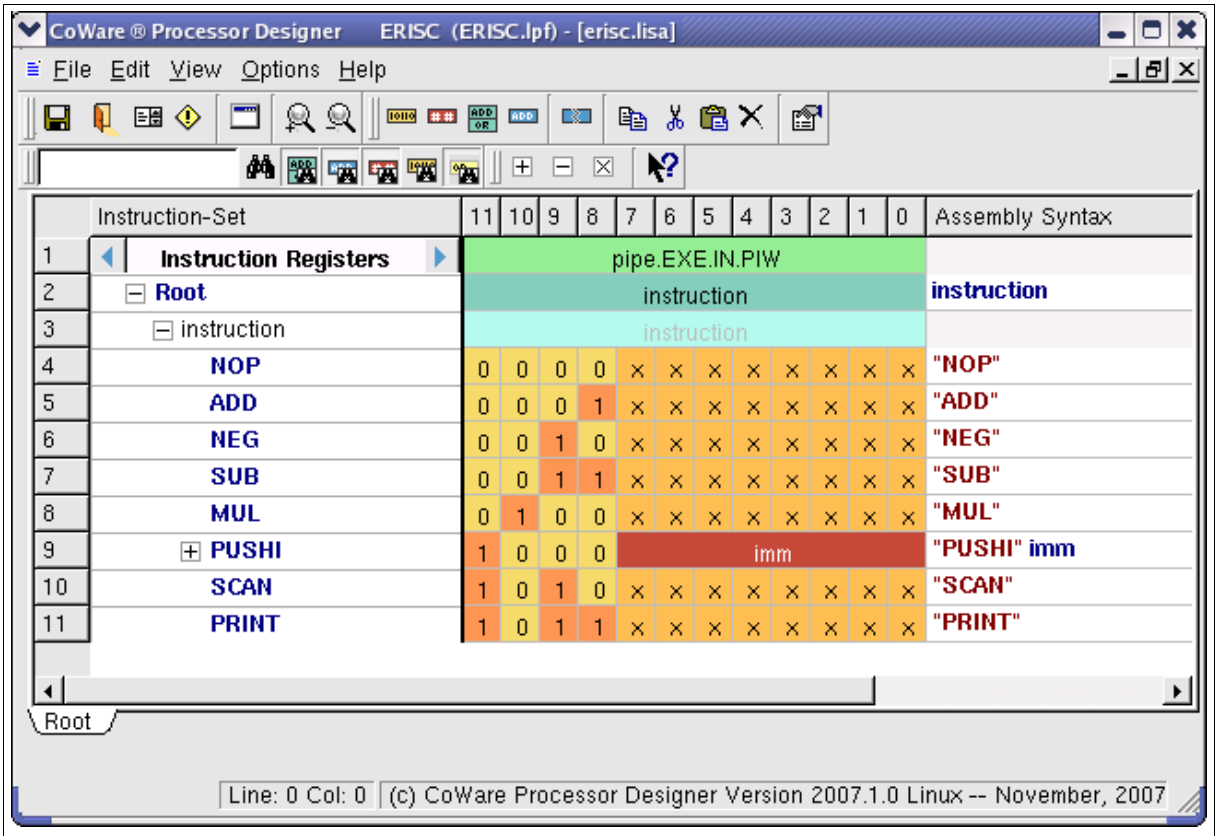
Instruction-Set	11	10	9	8	7	6	5	4	3	2	1	0	Assembly Syntax
Instruction Registers	IW												
Root	instruction												instruction
instruction	instruction												
NOP	0	0	0	0	x	x	x	x	x	x	x	x	"NOP"

ERISC1isa.bmp

Instruction-Set	11	10	9	8	7	6	5	4	3	2	1	0	Assembly Syntax
Instruction Registers	pipe.EXE.IN.PIW												
Root	instruction												instruction
instruction	instruction												
NOP	0	0	0	0	x	x	x	x	x	x	x	x	"NOP"
SCAN	1	0	1	0	x	x	x	x	x	x	x	x	"SCAN"
PRINT	1	0	1	1	x	x	x	x	x	x	x	x	"PRINT"

ERISC03isa.bmp

#2



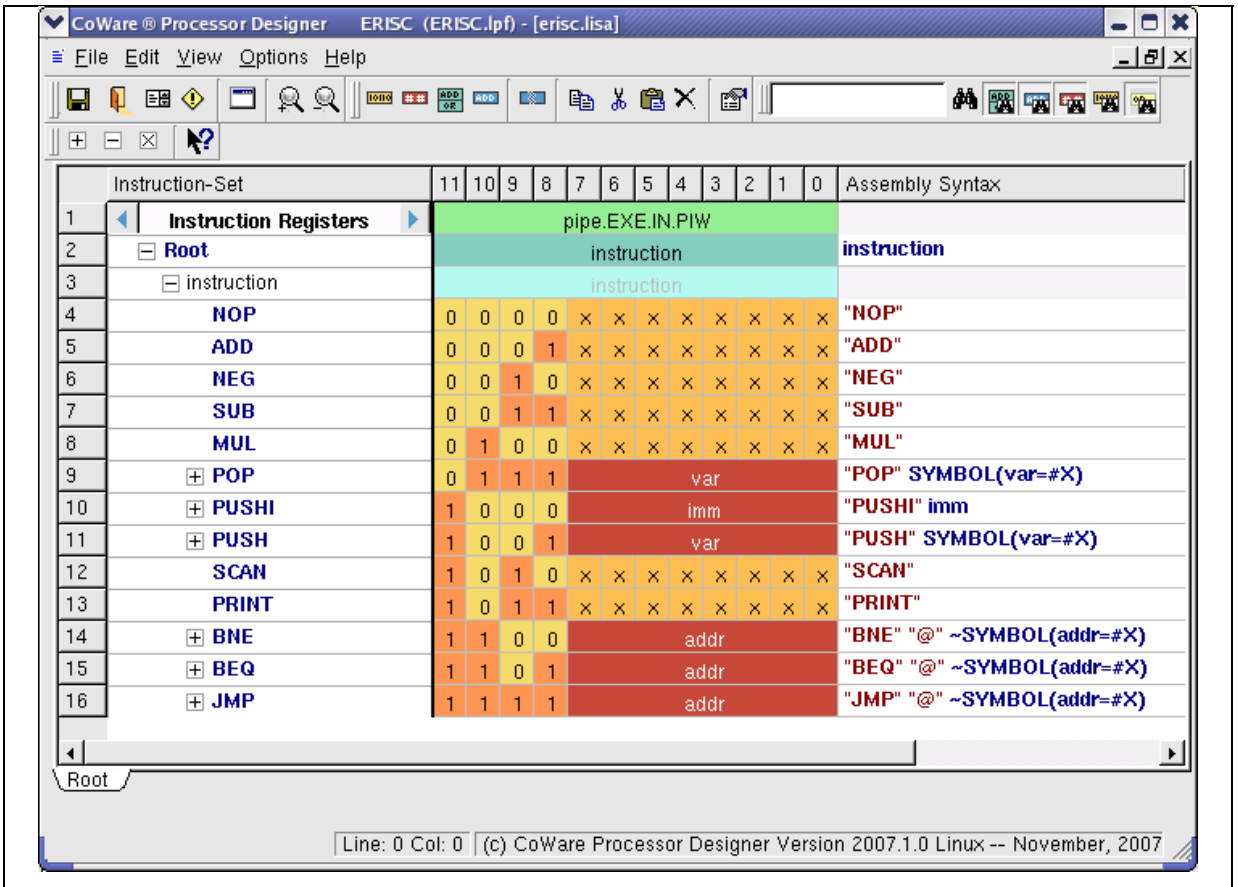
ERISC08isa.bmp

#3

	Instruction-Set	11	10	9	8	7	6	5	4	3	2	1	0	Assembly Syntax
1	Instruction Registers	pipe.EXE.IN.PIW												
2	Root	instruction												instruction
3	instruction	instruction												
4	NOP	0	0	0	0	x	x	x	x	x	x	x	x	"NOP"
5	ADD	0	0	0	1	x	x	x	x	x	x	x	x	"ADD"
6	NEG	0	0	1	0	x	x	x	x	x	x	x	x	"NEG"
7	SUB	0	0	1	1	x	x	x	x	x	x	x	x	"SUB"
8	MUL	0	1	0	0	x	x	x	x	x	x	x	x	"MUL"
9	PUSHI	1	0	0	0	imm								"PUSHI" imm
10	SCAN	1	0	1	0	x	x	x	x	x	x	x	x	"SCAN"
11	PRINT	1	0	1	1	x	x	x	x	x	x	x	x	"PRINT"
12	BNE	1	1	0	0	addr								"BNE" "@" ~SYMBOL(addr=#X)
13	BEQ	1	1	0	1	addr								"BEQ" "@" ~SYMBOL(addr=#X)
14	JMP	1	1	1	1	addr								"JMP" "@" ~SYMBOL(addr=#X)

ERISC11isa.bmp

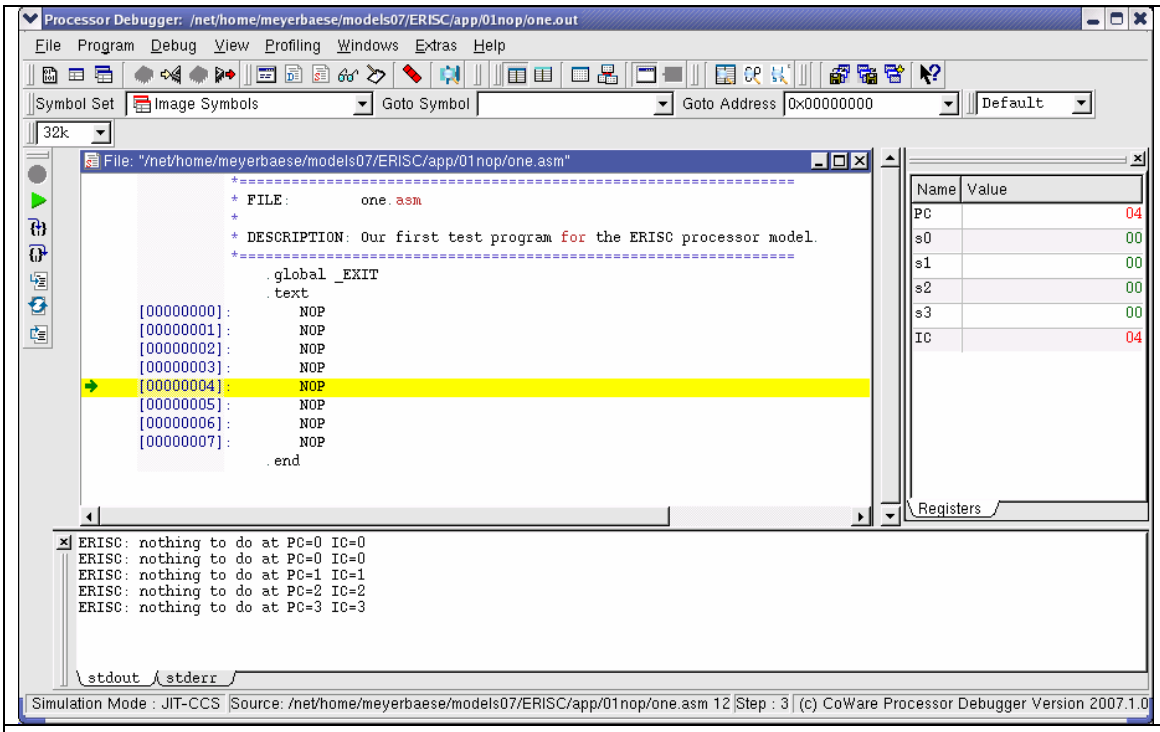
#4



	Instruction-Set	11	10	9	8	7	6	5	4	3	2	1	0	Assembly Syntax
1	Instruction Registers	pipe.EXE.IN.PIW												
2	Root	instruction												instruction
3	instruction	instruction												
4	NOP	0	0	0	0	x	x	x	x	x	x	x	x	"NOP"
5	ADD	0	0	0	1	x	x	x	x	x	x	x	x	"ADD"
6	NEG	0	0	1	0	x	x	x	x	x	x	x	x	"NEG"
7	SUB	0	0	1	1	x	x	x	x	x	x	x	x	"SUB"
8	MUL	0	1	0	0	x	x	x	x	x	x	x	x	"MUL"
9	POP	0	1	1	1	var								"POP" SYMBOL(var=#X)
10	PUSHI	1	0	0	0	imm								"PUSHI" imm
11	PUSH	1	0	0	1	var								"PUSH" SYMBOL(var=#X)
12	SCAN	1	0	1	0	x	x	x	x	x	x	x	x	"SCAN"
13	PRINT	1	0	1	1	x	x	x	x	x	x	x	x	"PRINT"
14	BNE	1	1	0	0	addr								"BNE" "@" ~SYMBOL(addr=#X)
15	BEQ	1	1	0	1	addr								"BEQ" "@" ~SYMBOL(addr=#X)
16	JMP	1	1	1	1	addr								"JMP" "@" ~SYMBOL(addr=#X)

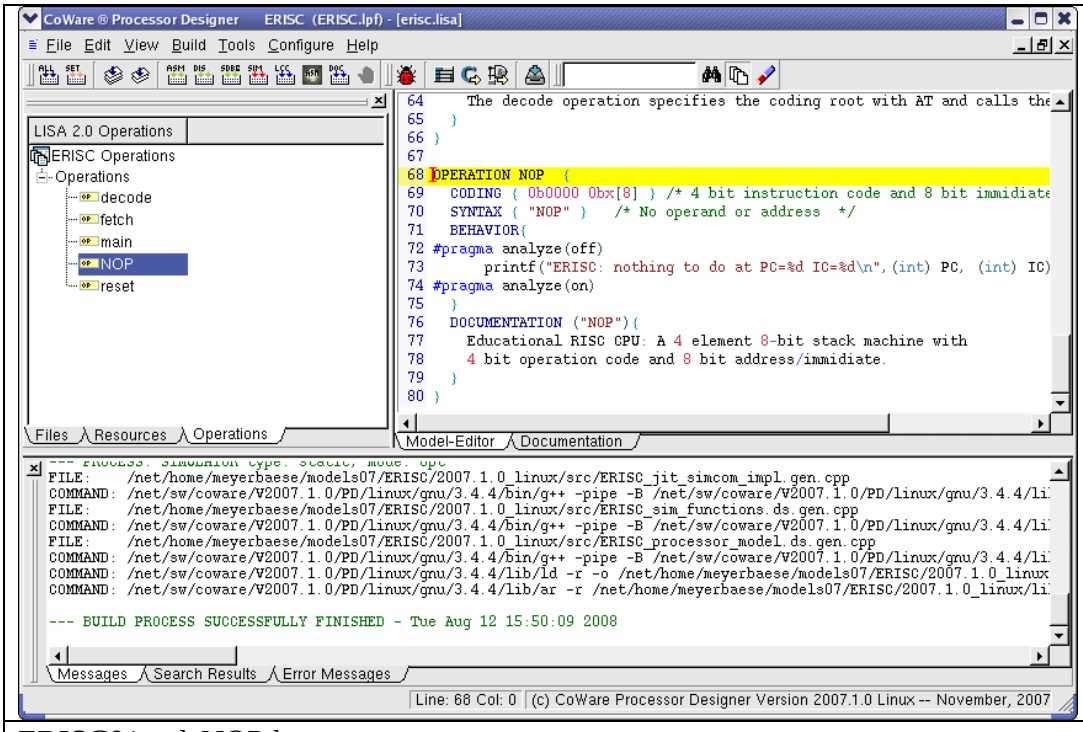
ERISC13isa.bmp

#5



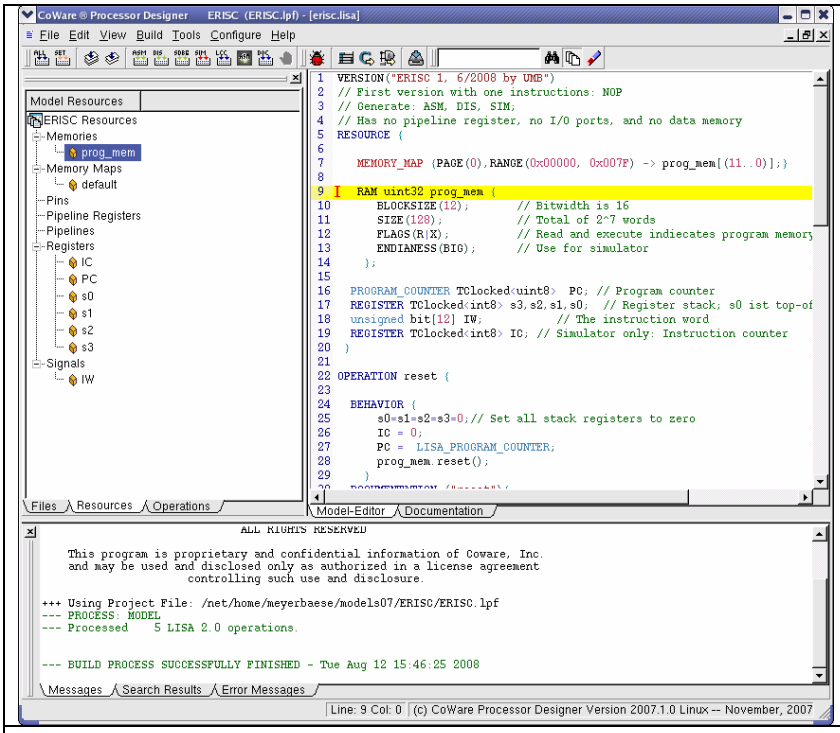
ERISC01debug.bmp

#6



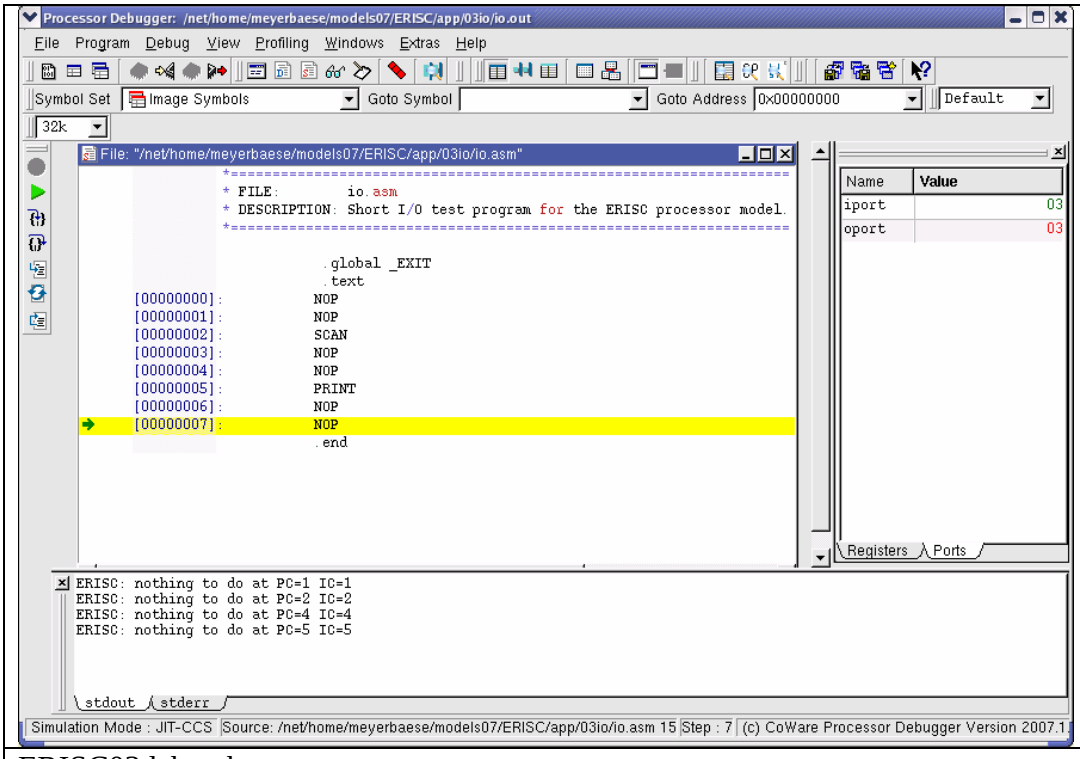
ERISC01codeNOP.bmp

#7



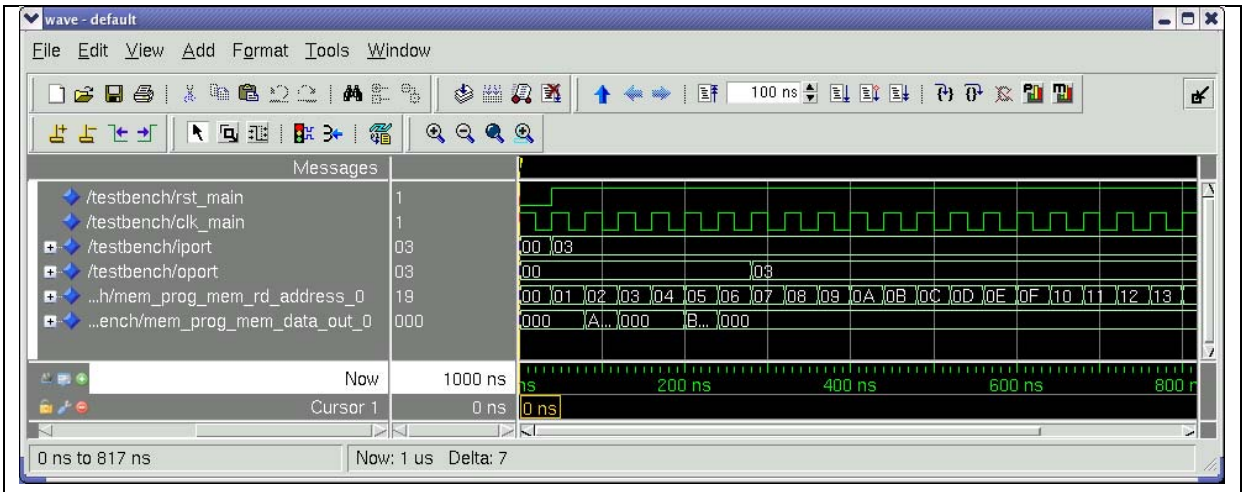
ERISC01code.bmp

#8

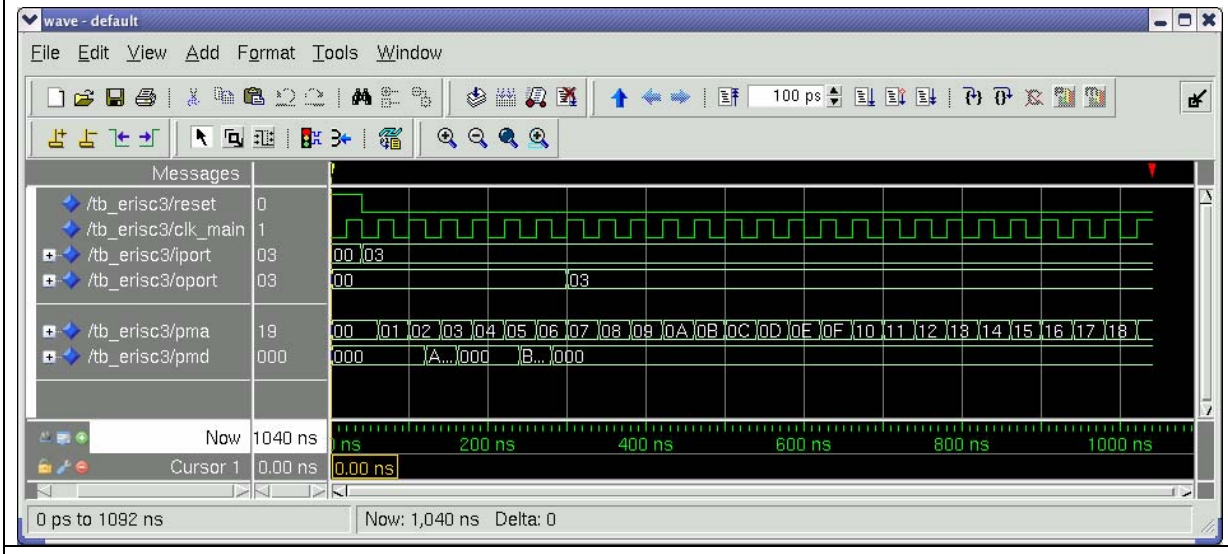


ERISC03debug.bmp

#9

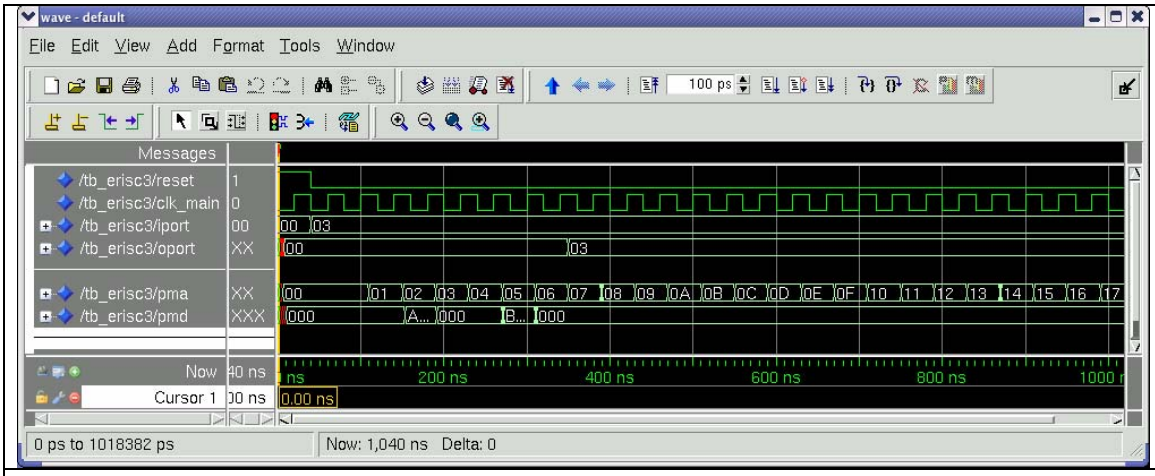


ERISC03funSim.bmp



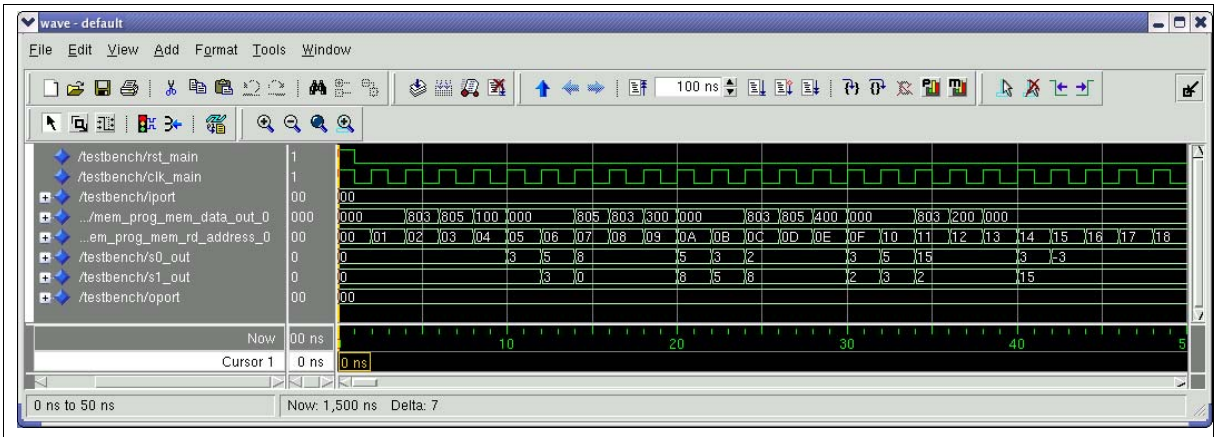
ERISC03xfunSim.bmp

#11



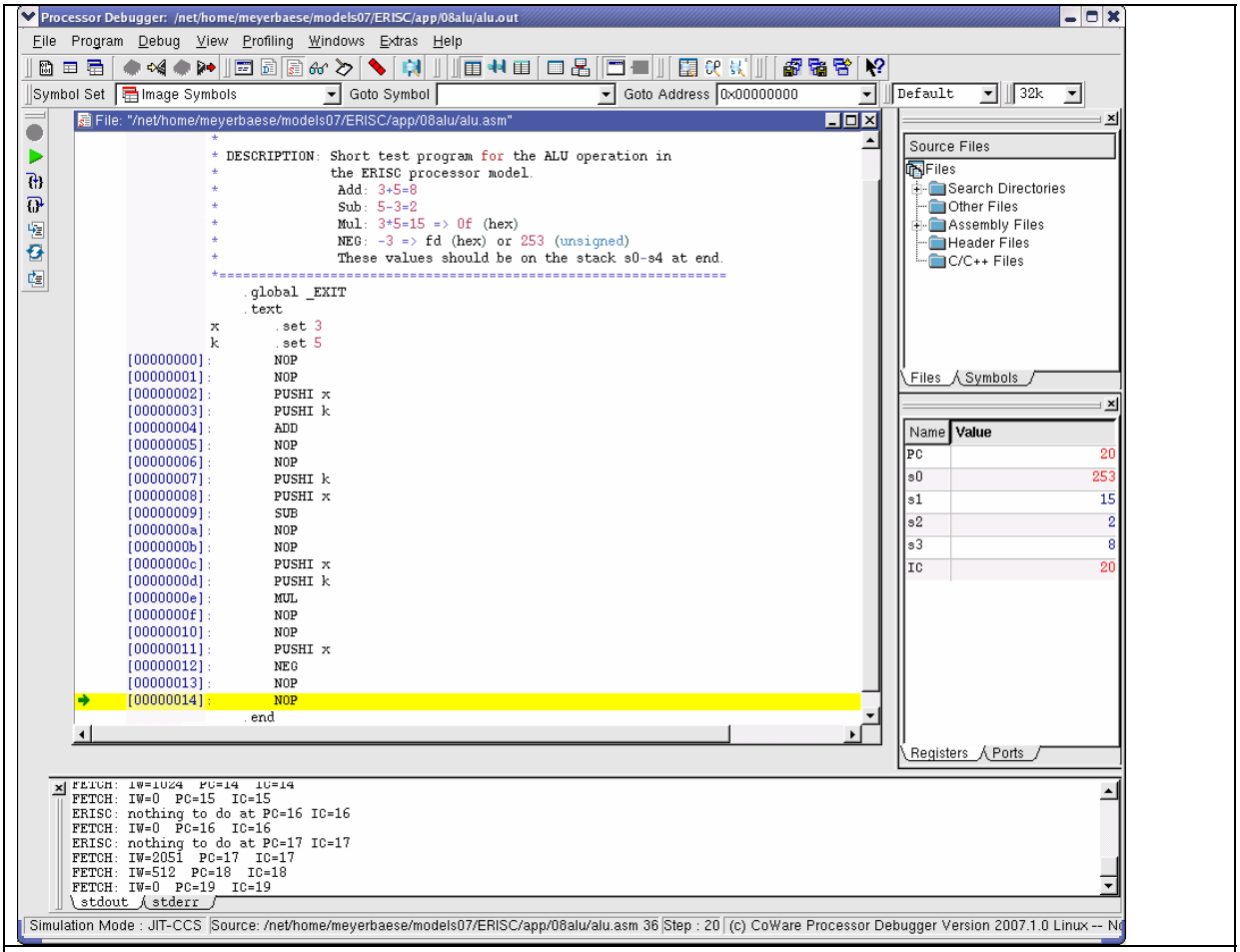
ERISC03xTimingSim.bmp

#12



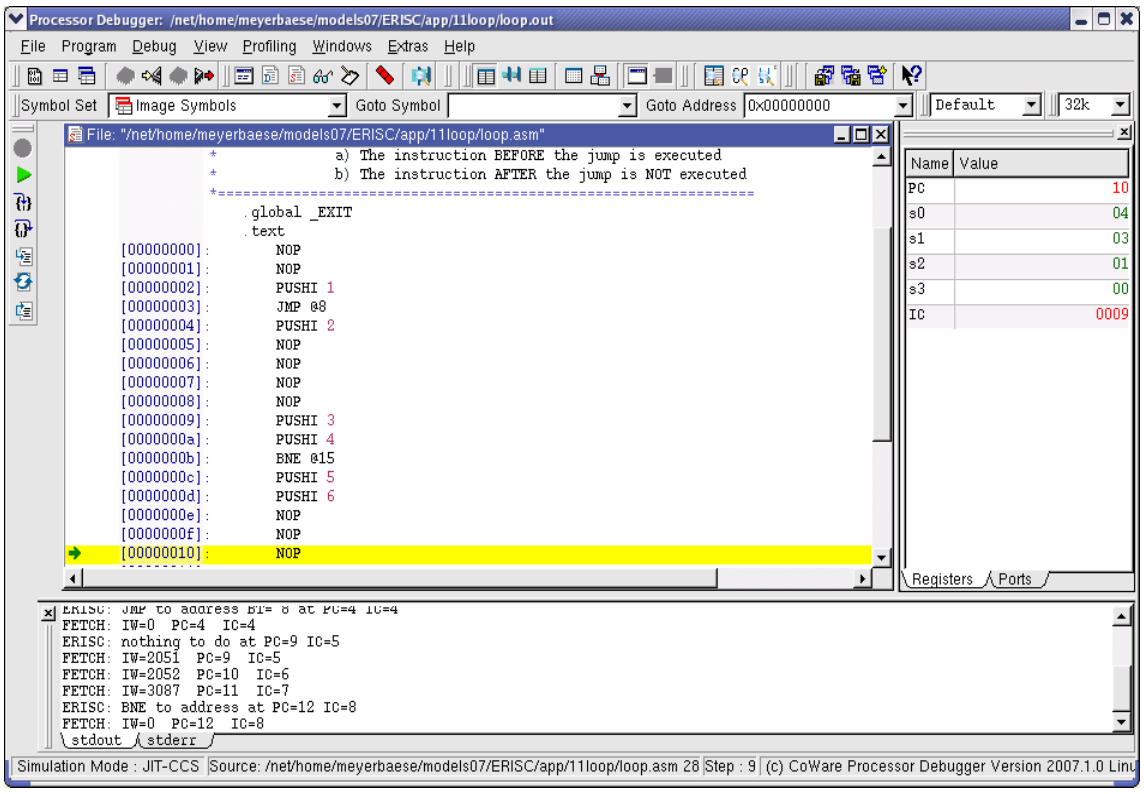
ERISC08funSim.bmp

#13



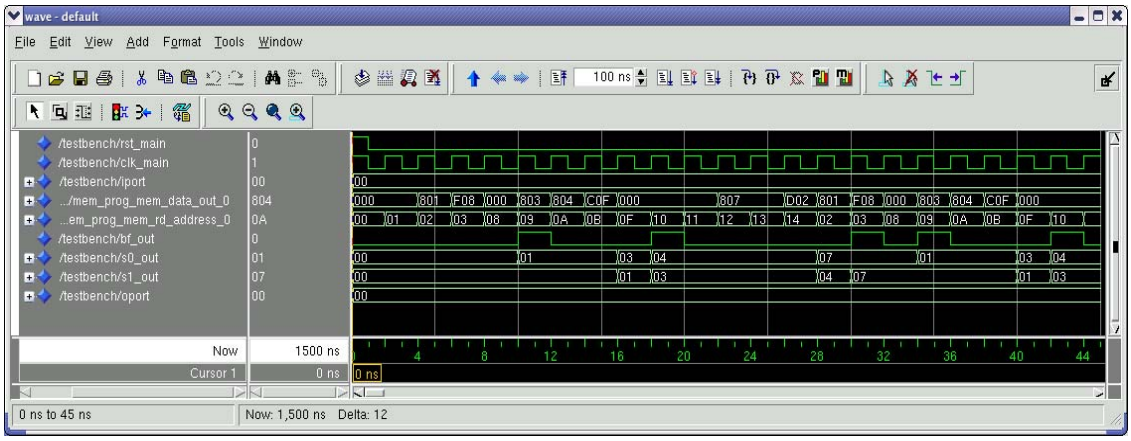
ERISC08debug.bmp

#14



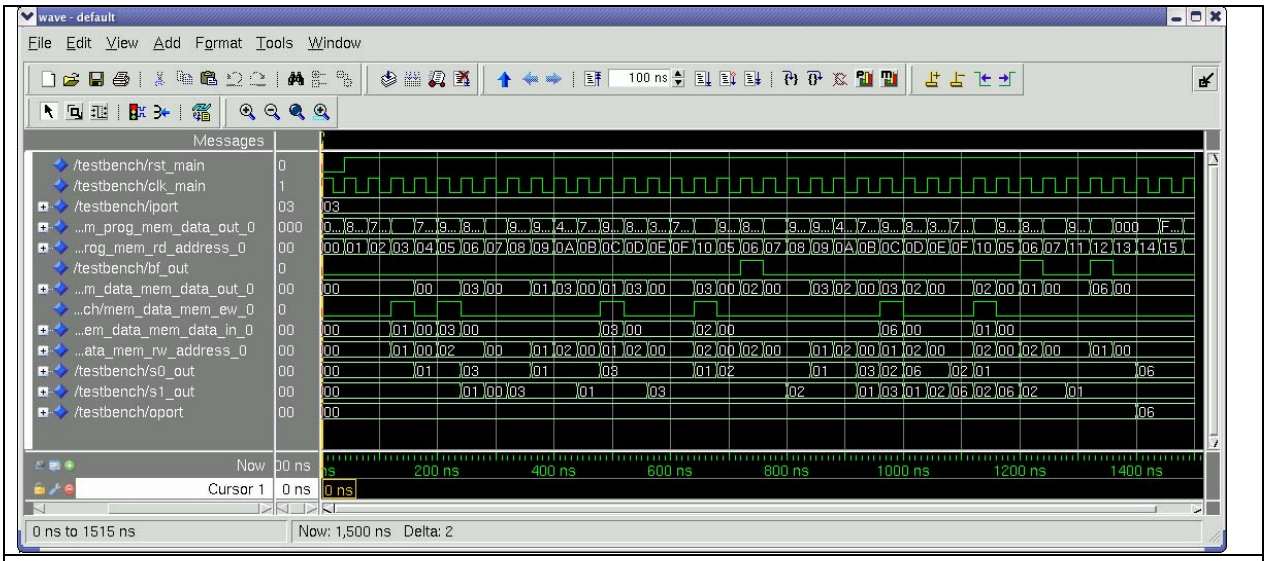
ERISC11debug.bmp

#15



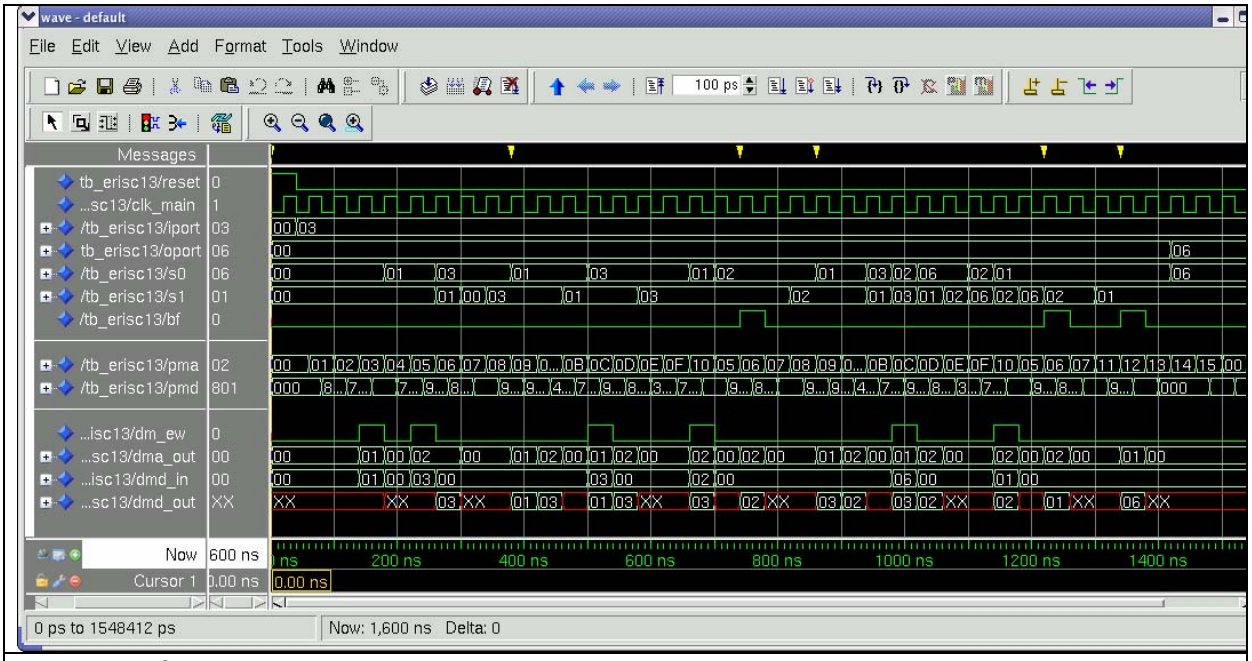
ERISC11funsim.bmp

#16



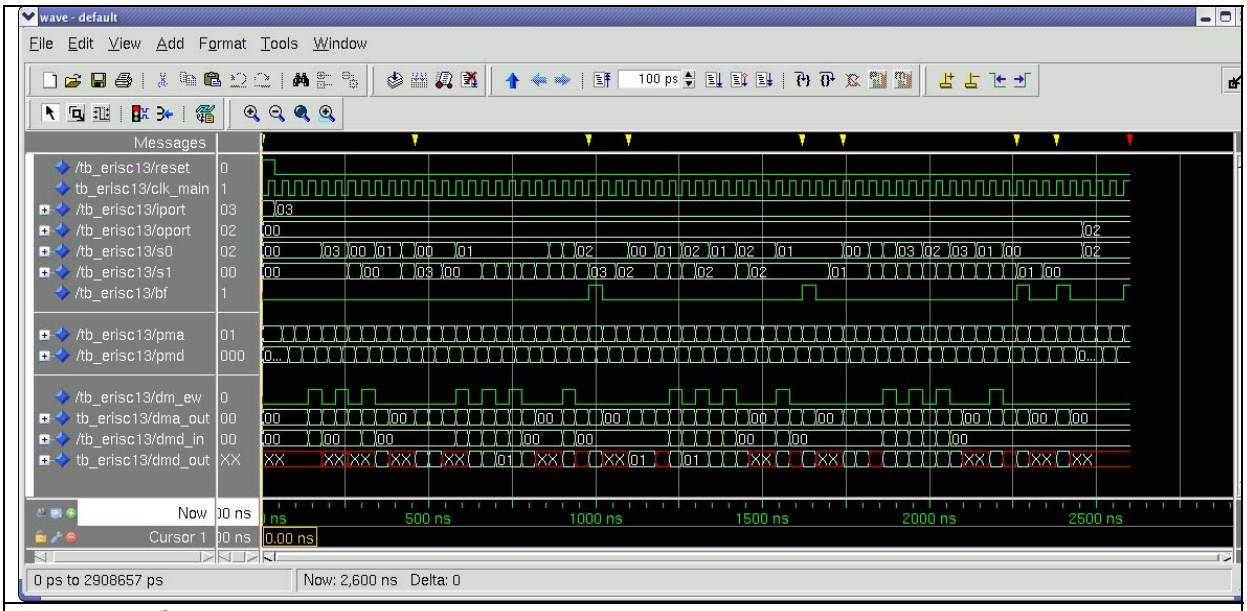
ERISC13funSimFact.bmp

#17



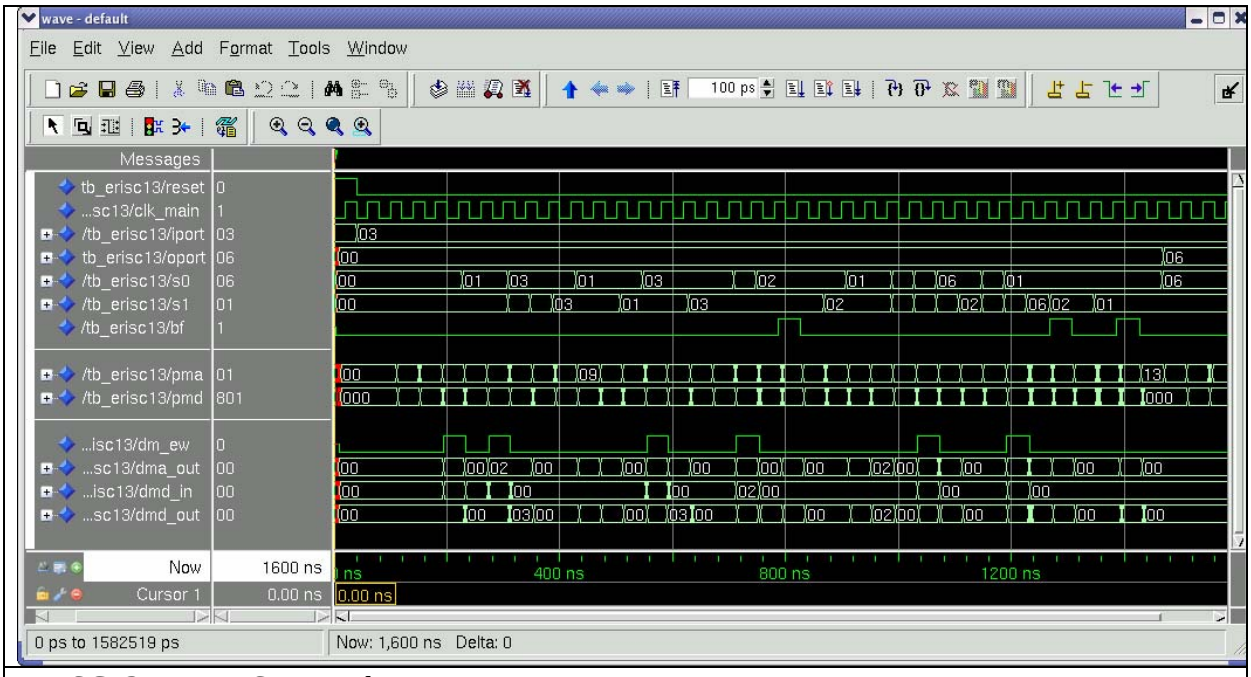
ERISC13xfunSimFact.bmp

#18



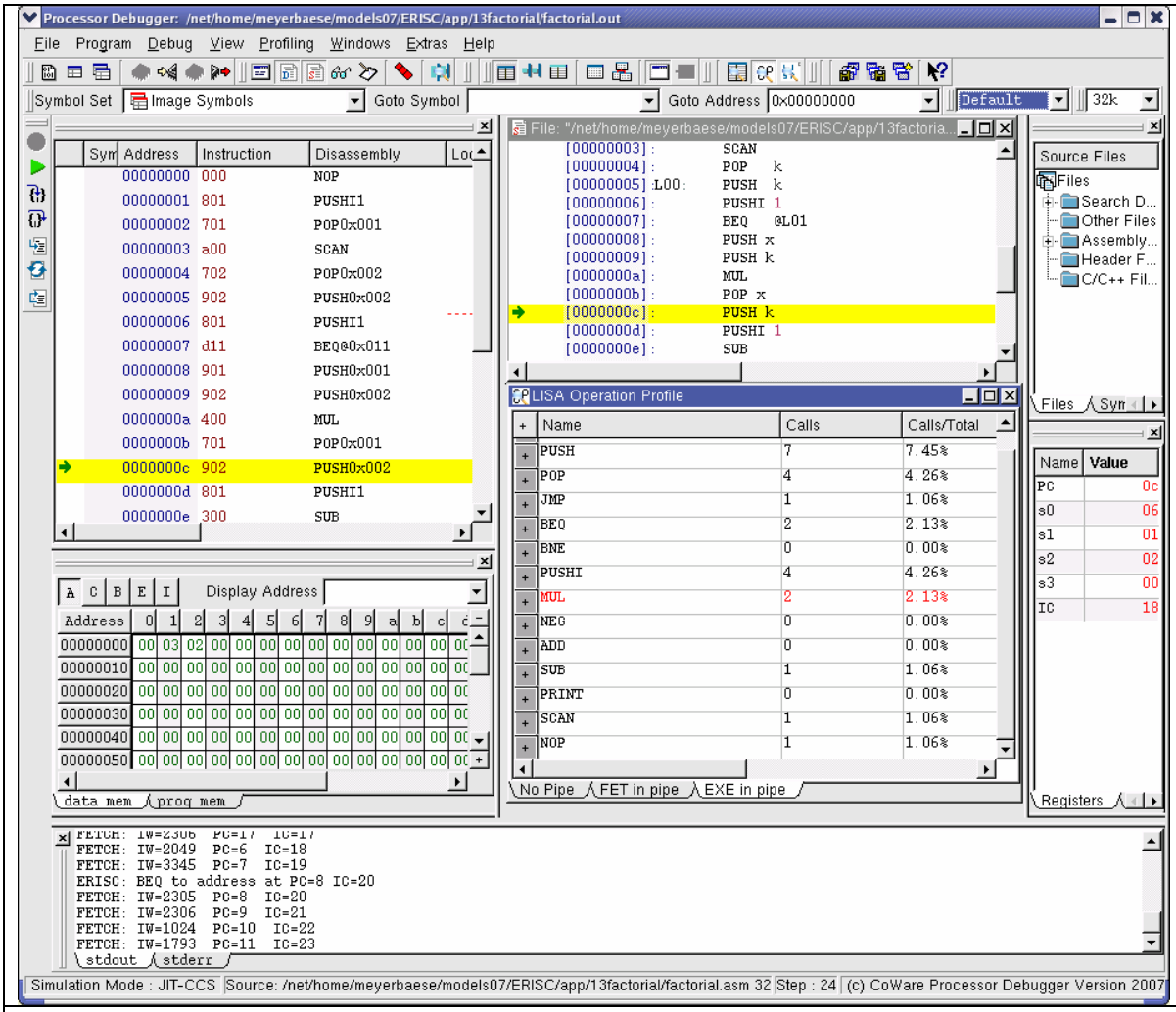
ERISC13xfunSimFibo.bmp

#19



ERISC13xTimingSimFact.bmp

#20



ERISC13debug.bmp

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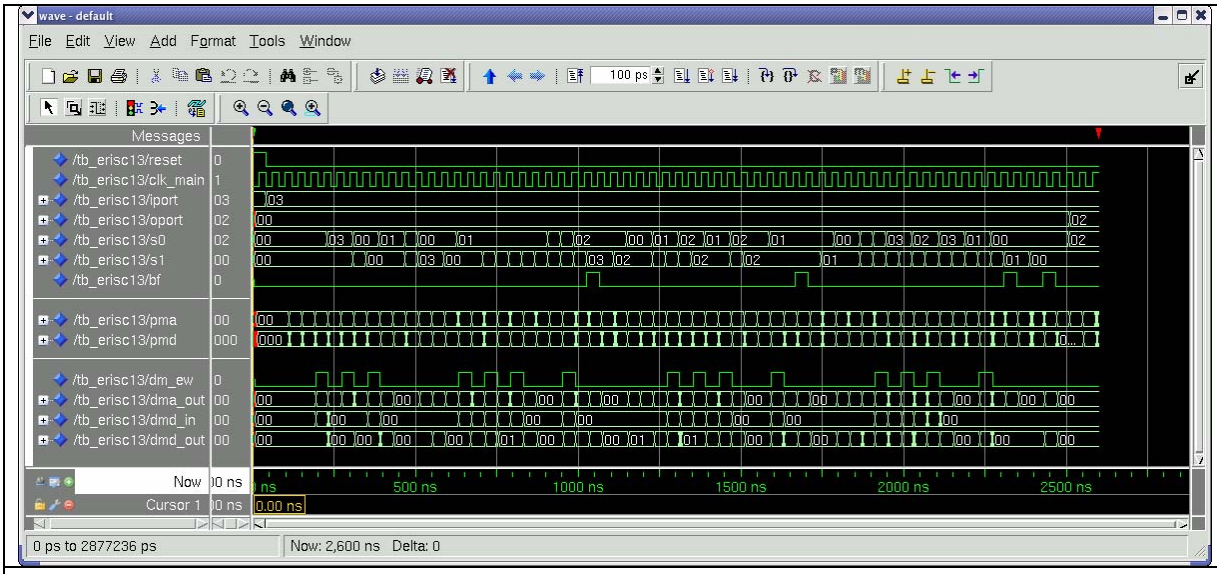
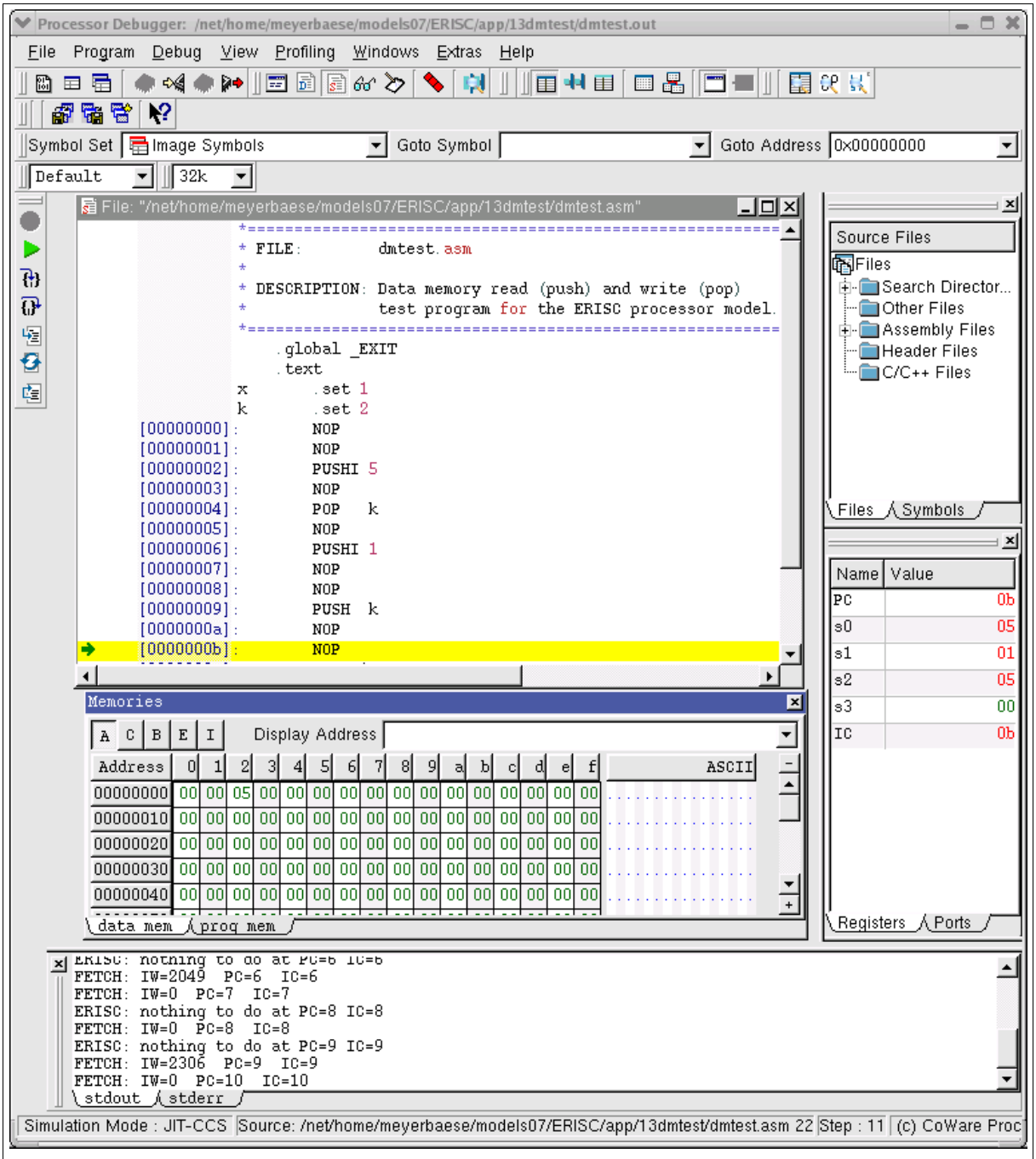


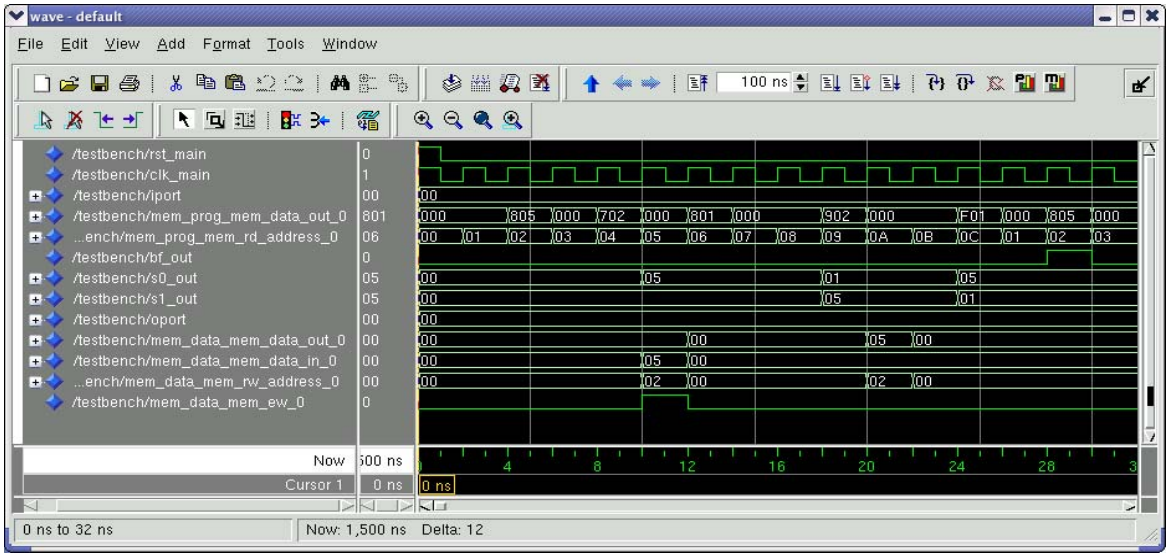
ERISC13xTimingSimFIb.bmp

#22



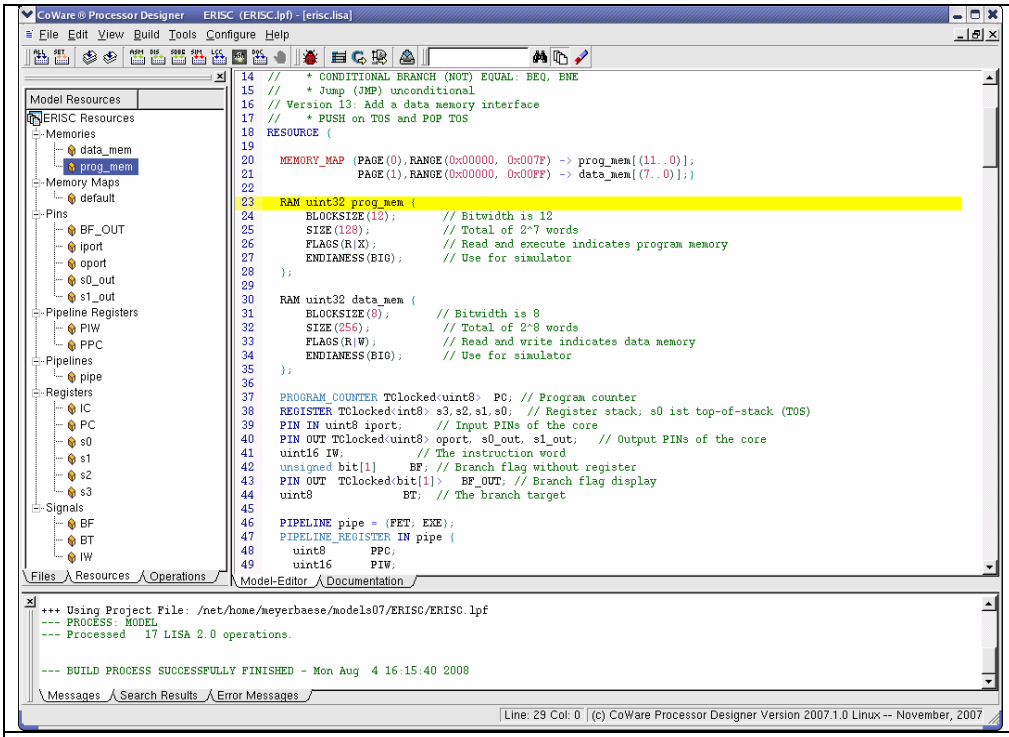
ERISC13debugDMtest.bmp

#23



ERISC13funSimDMtest.bmp

#24

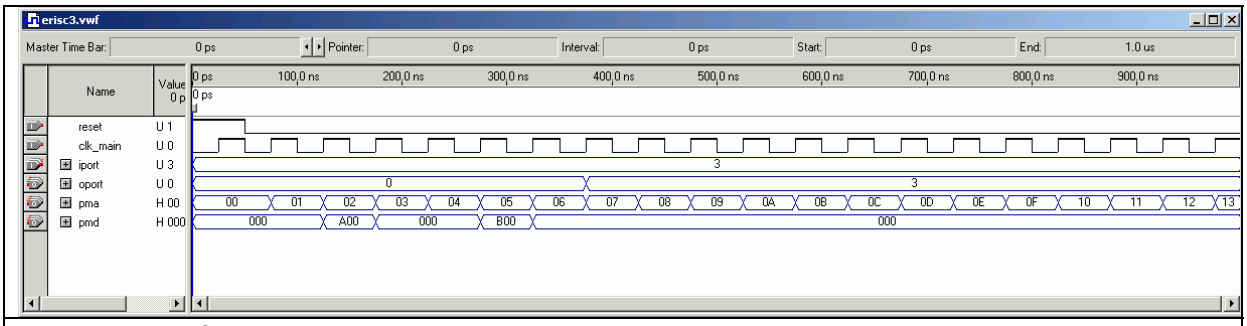


ERISC13code.bmp

#25

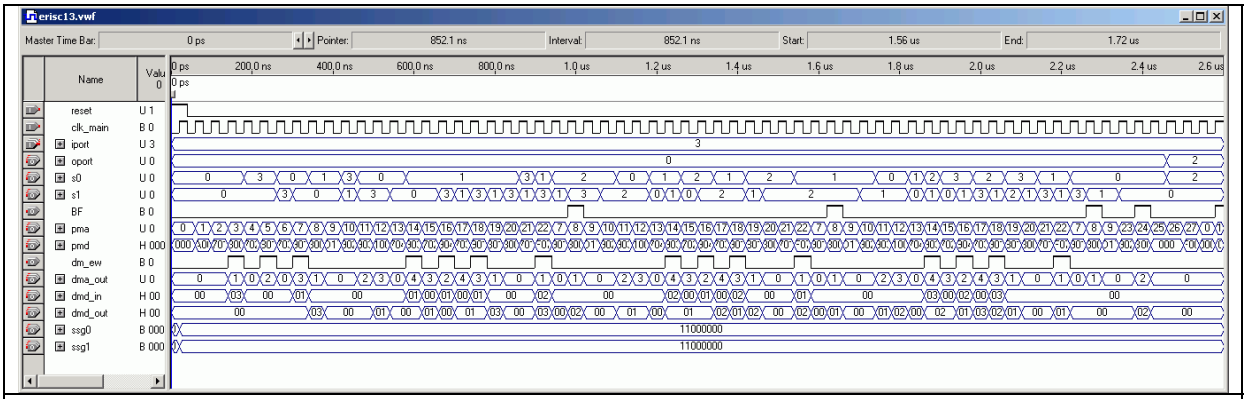
August 2008

Altera Synthesis Results



aERISC3io.gif

#26



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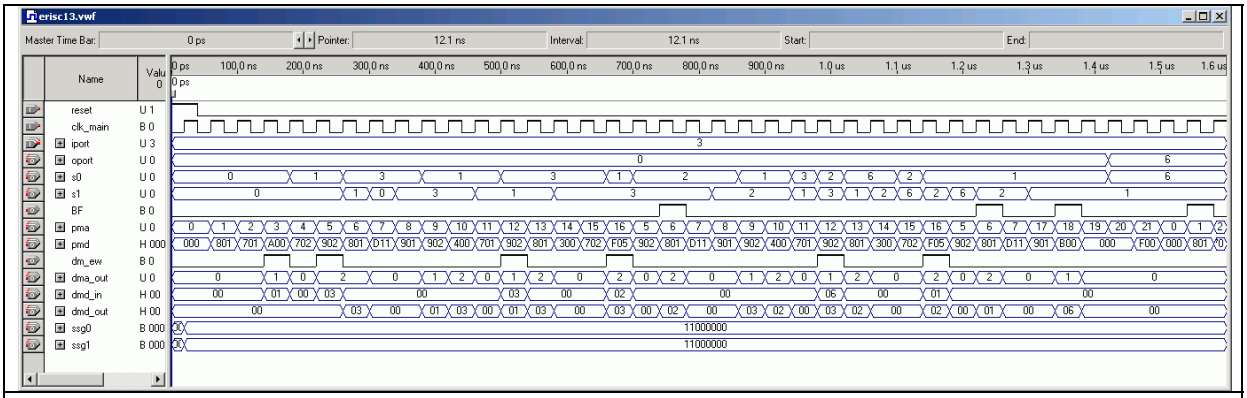
#27



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#28