VALMEM meeting (ANR project)



Meeting minutes 29/06/2010

Remy Chevallier 042/63/25 eSRAM team / Crolles1

1.Goal of the meeting

2.Attendees

Emmanuelle Encrenaz	LIP6
Abdelrezzak Bara	LIP6
Pirouz Bazargan-Sabet	LIP6
Dominique Ledu	LIP6
Laurent Fribourg	LSV
Etienne André	LSV
Ulrich Kühne	LSV
Remy Chevallier	ST

3.Summary of the meeting

Ulrich joined LSV team to continue the work started by Etienne. Welcome to him!

3.1.LIP6: VHDL2TA: Automated translation of VDHL with timings into timed automaton format (HyTech/Uppaal)

- Accuracy improve by the new algorithm for Taa: [258, 298] → [270, 278] (target is 276)
- Good improvement but need manual work
 - Indeed, a part of the constraint is saved in the latch: the signal is precharged at the end of the previous cycle. This data cannot be caught by the tool.
- Setup optimistic compared with the simulation data \rightarrow To be studied with Pirouz

3.2.LIP6: Temporal extraction integration

- First file generated Friday
- Generate the first simulation with a first configuration which is injected again in the tool until the timings remain stable
- The RTL is far to the spice netlist. The next step is to refine the RTL description
- \rightarrow This flow should help VHDL2TA to improve the boundaries

3.3.LSV: Parameterize model: From IMITATOR to IMITATOR2

IMITATOR2 is improving the performances by replacing external libraries (Apron \rightarrow PPL)

No result provided with simplified SPSMALL (62 parameters). But results provided with 12 parameters. The next step is to run with the complete memory (~200 parameters) simplified with fewer parameters.

Algorithm improvement planned to regroup part of the states generated. It can improve the memory performances.

4. Publication

• Conference FDL2010: Paper accepted. The reviewers request comparison with industrial circuit (deadline for the final paper is 15th July)

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- Conference RP2010: Paper accepted. Improvement of inverse methodology
- Working model for DATE (deadline 5 September) proposal:
 - Patricia/Remy: introduction
 - Pirouz: Abstraction
 - o Etienne: Formal methods
 - Draft planned the 23^{th} July

5.Visit at ST

A visit could be planned to discuss:

- ST design flow presentation (JA/Remy)
- Presentation of CIFRE proposals

6.Actions

- Administrative
 - Follow-up the 'Accord de consortium' story (All) [asap]
- Embed the temporal extraction methods inside the tool (LIP6/Temporal extraction)
- Cross-check the setup/hold timings (LIP6/VHDL2TA)
- IMITATOR2 improvement with tool to decrease the memory consumption. Run the tool on complete SPSMALL (LSV)
- Build the final release for FDL conference
- Submit paper to DATE
- Prepare the visit of LIP6 in Crolles

7.Next meeting

The next meeting is planned the 2nd September at 2pm CET time.

8. Deliverable overview

No.	Title	Deliv.	Resp.	Target	status
D1.1	State of Art in eSRAM conception	R	ST	0→6	Done
D1.2	Build web site for the project	R	LIP6	0→6	Done
D1.3	Description of the conception flow	R	ST	6 → 12	Study 1 done
	applied on a study				Study 2 done
					Study 3 not started
					Run time of conception flow
					done
D2.1	State of art in memory verification	R	LIP6	0→6	Done
	methodologies				
D2.2	Definition of a new functional and	R	LIP6	0→6	Done
	timed model			_	
D2.3	Mixing of abstraction methods and	R	LIP6	6 → 12	Done
	temporal characterization	-			
D2.4	Abstraction tool prototype	Р	LIP6	12→48	ongoing
D3.1	Temporal automaton modeling	R	LSV	6 → 12	Done
	adapted to memory				
D3.2	Temporal automaton model checking	R	LSV	12 → 18	Done
	adapted to memory				
D3.3	verification tool prototype	Р	LSV	12→24	Done

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D4.1	Description of the conception flow	R	ST	12→18	Not started
D4.2	applied on other studies Experimentation of prototypes on	R & D	ST	18 → 48	ongoing
D4.3	real study Comparison of results from current verification methods and new	R	ST	30 → 48	ongoing
	methods				

The targets are described in months.

Delivery naming: (R: report / P: prototype / D: demonstrator) wk: week number

Q: quarter