

DVClub considers Coverage Closure

with an international line-up of speakers

The next DVClub meeting will again be co-located in Bristol and Cambridge with a video link enabling more engineers to participate, a wider range of speakers and remote access.

The next DVClub takes place on Monday January 18th 2010 from 11.30 to 14.00 at:

- The University of the West of England, Frenchay Campus, Bristol (room 1N5)
- The ARM office in Cambridge (110 Fulbourn Road, Cambridge, CB1 9NJ, England)
- Through remote access from your desktop

11.30	Networking, drinks and buffet
12.00	Introduction, Mike Bartley, TVS Mike will introduce the event and give the results from the survey which participants are asked to complete prior to the event
12.10	“Coverage closure using hybrid-formal techniques” Dan Benua, Corporate Application Engineering Manager at Synopsys The last bit of coverage is always the most difficult. Lots of manual effort is required to write additional tests or tune existing tests to close on coverage goals. Documented justification of missing coverage may be required by some companies and/or projects, This presentation shows how hybrid formal techniques can automate coverage closure. Unreachable coverage can be detected automatically so that, if valid, it can be excluded from your coverage goals and reporting. Hybrid-formal techniques can also be applied to automatically generate meaningful coverage to accelerate coverage convergence.
12.30	“Heuristic stimuli generation for coverage closure exploiting simulation feedback”, Dr. Giovanni Squillero, Politecnico di Torino The talk will discuss a quite general framework for generating stimuli for coverage closure: a candidate set is first created and then iteratively refined exploiting data gathered from the simulation. Stimuli may vary from simple sequences of binary inputs to complex assembly-language test programs. The refinement process exploits an evolutionary algorithm and can be seen as an example of machine intelligence, where the human designer sets a goal and the machine automatically devises a methodology to fulfill it. The approach is broadly applicable in different scenarios, and its main requirement is to simulate the candidate test and get a measure of the attained coverage. The talk will detail the main aspects of the framework. As case studies, some successful results and collaborations with industries will be showed: verification of a LEON (SPARC v8); test and verification of a PLASMA (MIPS I), exploiting descriptions at different levels of abstraction; detection of power-affecting software defects in a mobile phone. The verification of the pick unit of an OpenSPARC T2 processor, a current research activity of the group, will also be described.
13.00	“Easy and Hard Ways to Reach Coverage Closure” Avi Ziv, IBM Research Lab at Haifa, Israel Reaching coverage closure is one of the more difficult tasks verification teams face. It involves analysis of the coverage data to identify important holes, finding the root causes for these holes, and modifying the directive to the stimuli generator to close the holes. In this talk I will present methods and techniques that can ease the burden of this task. I will begin with basic techniques that improve the quality of coverage analysis and toward methods for automatically closing the loop from coverage data to stimuli generation. I will cover both tools that are used in industry and method that are being investigated in academia.
13.45	Networking, drinks and buffet
14.00	Finish

Don't miss out – register now for this **free** event by emailing Mike Bartley (mike@tandvsolns.co.uk).

This event is sponsored by Synopsys, UWE, ARM, Infineon, the NMI and TVS