IEEE 1149.1- 2011 Boundary Scan Working Group Minutes

Date – 05/11/2011

Attendees: CJ Clark, Bill Tuthill, Brian Turmelle, Carl Barnhart, Bill Eklow, , Ted Eaton, Carol Pyron, Adam Cron, John Braden, Craig Stephan, Ken Parker, Heiko Ehrenberg, Wim Driessen, Adam Ley, Francisco Russi,

Missing with pre-excuse , Dave Dubberke, Roland Latvala ,

Missing: Lee Whetsel, Neil Jacobson,Mike Richetti,
Ted Cleggett

Agenda:

1)   *11:00* Patent Slides and Rules of Etiquette
2)   11:05 PDL Annex C

   a) Discussion
   b) TRST ON/OFF   iEndState wrap-up
   c) iTarget/iCall

3)   11:50 Call for New Business (if any)

Meeting Called to order at 11:00 am EST
Minutes:

Review Patent Slide – Reminder sent out over email during the last week.
Review of Working Group Meeting Guidelines

EndState

Ted – iEndState
CJ- PDL provider will have ability to overshift the TDRs to gain confidence that the scan chain is intact. Will be able to overshift boundary register
Ted- Does .1 version of PDL support iScan
Carl – yes
Ted – 1687 Tried to separate the JTAG state machine from the general PDL except for iScan. iScan is able to do the overshifting
CJ- iScan
       iApply allows us to skip going through capture and update.
       The iApply makes it more readable

Carol- supports Endstates.
　　　But questions PauseDR sequence in email. There is nothing in the standard that defines this sequence.
CJ – PDR sequence has to be agreed upon and codified that this is the transition.
Ted – if we need state transition control than we should have full state transition control.
CJ – trying to keep it at a high level. Trying to preserve ability to shift through the registers.
Carl – Confused on the definition of iScan.
Ted – will ask the p1687 working group the definition and document that.
Bill E – Are we basically going to be claiming compliance to 1687 PDL? And if we do do we have to wait for 1687 to get approved before we get approved
CJ – no. we have PDL defined in 1149.1 . We are trying to be a Subset of 1687 PDL.
Bill E – good if it was a pure subset of 1687 and allows tool vendors to code for both 1149.1 and 1687 PDL
Ted – Tools already know how to shift through the register with out PDL. Minimal benefit to just ad iEndState for overshifting through PauseDR

Adam C – if you know what the safe bits are why can't you just set the pattern and shift it in
CJ – at some point you have to go through update DR
Adam C – yes after some number of shifts.
CJ – will have bits in the TDR when you go through UpdateDr. Could be enabling things you are not aware of. Won't know what the safe pattern is for a given TDR
Adam C- will we know what the safe bits are?
Carl – only if the Designer (ip provider) codes it into a PDL
Adam C – we are missing the safe values an
CJ – if we spent more time enhancing BSDL we could put in reset values and safe values
Ted – in 1687 all this is there in ICL. Should 1149.1 be taking care of this?
CJ – this is a separate effort from 1687. Not relying on 1687 at the moment.
Ted – Don't need to solve all 1687 in .1
Ken – What is missing is the overall model of what is happening with these snippets of code. There is some setup states and execute states. And don't have a good model of what is happening under these instructions, i.e. iApply
CJ – this is described in Annex C. If we need to make improvements we can look at it.
Ken – where is this version of Annex C.?
Carl – it is on the web site.
Adam C – yes it is true in isolation. If you try to parallelize any of this stuff you could be skewing it;
Carl – agreed. And will be in extended section

TRST –on / TRST-off
Problem in 1149.1 that people put test capabilities in their chip but hide them behind a private instruction. Some of the things in PDL are there so an IP provider can document how to use the PDL code but to verify that the TDRs are hooked up correctly.
Purpose is to give IP providers tools that they need to test their logic inside a chip that may not be accessible through public instructions

CJ - iReset will have parameter to allow you to toggle TRST on and off
        Reason for this is we need to be able to toggle the TRST pin without going
through the TMS state or issuing TCKs
Ken – off is high / on is low
Carl - TRST without off/on is not a TMS RESET (5 cycles with TMS high)
        TRST with off or on than it is 5 cycles with TMS high
Ted – intention of PDL at .1 is only at chip level?
CJ – iReset cannot be used at the lower levels. Only at the IC level

iTarget/iCall

John B – thinks we are heading in the right direction and would like to get it closed up
Adam L – SI not comfortable with direction. More inclined with the purest view that was
put forward earlier by Carl.
CJ – if we make it a rule it might be burdensome to some

New Business
Bill E – New Business – Electronic Chip ID
CJ – will schedule time for it for next Tuesday Meeting

Meeting adjourned: 12:00 EST.

Next Meeting: 5/17/2011 11:00 AM EST

0 Motion Made

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 Meeting time: Tuesdays 11:00 AM (EST)   (Recurring)

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