

Date – 06/Jan/2012

Minutes of the IEEE-1149.1 Working Group Friday meeting

Attendees:

Adam Cron
Adam Ley
Brian Turmelle
Francisco Russi
Carl Barnhart
Craig Stephan
CJ Clark
Ken Parker
Roland Latvala
Dharma Konda
Carol Pyron
Dave Dubberke
Jeff Halnon
Josh Ferry
Ted Eaton
Heiko Ehrenberg
Wim Driessen
John Braden

Excused:

Peter Elias

Meeting called to order at 9:38 am MST

Current Draft: check private area for latest draft

The agenda for the meeting today:

- Wim has a short presentation on issues with PDL
- Review of Carl's note on What are the requirements for PDL
- Continue review of PDL proposal by CJ

Wim's overview of PDL issues:

Example with Power domains A and B mutually exclusive inside an IC.
Need to solve this dependency from a calling program, to identify structurally that these domains are mutually exclusive of each other. Today there is no way he sees to do this.

Wim/Carol to send out his example to the reflector for review this week.

CJ thought he could provide a follow-up example to solve the issue

Roland asked about chain integrity test for this simple example

Ted said the example implied other DataFile was accessed. Wim clarified.

Carol asked that a symbol be added to identify selectable power domain segments. Carl agreed to do this.

Carol reviewed Carl's list of PDL0 instructions:

Item1:

- Ted thought the concept of looking at the board is analogous to looking at a board to determine the control cells.
- Carol agreed

Item2: no comments

Item3: no comments

Item4:

- Ted thought Polling was handled without any PDL as discussed for INIT early on.
- Carl said we had no way to describe the need for polling.
- Ted said it could be a comment in the BSDL, and PDL not required necessarily

Item5.

- Ken asked if this item supports 1.) only.
- Carl said may not be necessary but mandatory, since most usable languages have a calling routine.
- Ted responded that for a general language he agreed, but for structural constructs this may not be needed.
- CJ thought the calls are needed (iCall) to set up PLLs for example.
- Ted thought within 1149.1 this is not needed.
- CJ acknowledged Ted's view point.

Item6.

- Carol thought we at least need to have the ability to handle multiple instructions accessing the same tdr.
- Adam C. asked for clarification
- CJ said we have iDefault_Instruction for 1149.1 to tell the tool the instruction
- Ted thought iDefault_Instruction would be useful for P1687 also.
- Adam said this was 1149.1 specific so may not be needed for P1687
- Ted asked if we really need to know what reset is being used? Does someone designing a section of a PDL know about which resets are needed.

- Carol thought the resets were to support the ‘safe and cool’ states while running EXTEST on the IOs.
- Carl said the resets are only recognized in the top level PDL, not in the lower level PDL files. Allowed in lower levels, but ignored if not in the top level for the environment.
- Ted asked for clarification.
- Carl said similar to P1687, only in the top level.
- Ted said the entire system needs to be controlled by the testers, not necessarily from the PDL.
- Carl agreed the ‘tester’ becomes the top level in that case and can ignore those in PDL
- CJ said it was test engineers prerogative to do them.
- Ted didn’t see how board and system level resets can be called from the 1149.1 chip spec, as Adam pointed out last time.
- Carol said we would provide IC level PDL routines, and board engineer would manage their instances/environment given all the documentation. App notes, and so on.
- Ted thought we shouldn’t be putting constructs in that are only valid at board level, since this is a chip level spec.
- Wim said low level resets cannot be allowed if the calling program is not aware of them.
- CJ/Ted discussed whether reset instructions are needed or not.
- Wim said 99% of components cannot block resets today. Need to be handled at the board level. iReset should be taken out in his opinion.
- Ted said the discussion is how much PDL is needed.
- CJ said we can vote on each PDL command one by one, but we shouldn’t get stuck on iReset.
- Carol reiterated we are trying to determine the minimum set of PDL instructions needed to support a structural language. Carl’s list is appreciated.
- Carl confirmed this focuses the discussions to avoid the WG getting trapped.
- Adam C. thought we may be trying to solve the world’s problems from the chip level.
- Carol said no, we are just giving permissions. The PDL options are instance specific.
- Adam thought he saw the ‘dot dot’ (../) construct too.
- Carol said this was for traversing hierarchy.
- CJ confirmed this works with the prefix for traversing hierarchy through multiple cores, plls, and so on. Adding or removing prefix as needed.
- Adam said this sounds overly complex, but he’ll drop it.
- Ted asked for clarification about having only two levels of hierarchy, or unlimited hierarchy?
- Carl said in theory you have unlimited levels going down. But realistically only 2 or 3 levels would likely be used.

- Ken asked Carl to add prefix for this list, that each item should be ‘for each individual IC’. Or another list of what we are not trying to solve. Ken wants the list to clear that the rules are for an individual IC.
- CJ said the examples work for a board too. Ken thought another annex to show chains of devices would be good too. CJ agreed.
- Carol asked for other comments.

Item7.

- Ted asked about how ECIDCODE is any different from IDCODE, or USERCODE as far as being able to return the values read out.
- Carl confirmed there is no difference and will add them into 7.) too.
- WG continued discussions here about whether this is needed or not. Wim to send his ideas to the reflector.

CJ continued discussions of Annex C:

- First he asked who has read the draft, and if there are any questions?
- Heiko is in the process of reading through the draft and will follow-up
- Josh said he spent about 2 hours going through it this morning. He will see if PDL0 is sufficient or not for his applications.
- CJ brought up a potentially new PDL1 command iGet <register> iWrite iRead iExpect with radix hex, bin, dec (with hex default). He showed several examples of the usefulness of this PLD1 command.
- Wim was confused about how to use these text strings.
- CJ said the IC provider can provide ‘error checking’ to ensure the board engineers are using their IC correctly or not. Reuse the IC vendors knowledge to help the board test engineer. There is no way to do this in BSDL today other than an info tag.
- Ken asked question about the two line example with each having MNEM . CJ explained the example saying MNEM is telling the routine to return the mnemonic for the field.
- CJ went on to present the other examples (up to example F) of iGet and its usefulness. Several WG members asking questions along the way.
- Carol asked CJ to send out his presentation material.

Meeting adjourned: 11:12am MST

Action Items:

- WG to review the latest draft
- CJ and Wim to send out there presentations

Next Friday Meeting:

- Next Friday meeting is on 13-Jan-12

Happy New Year!