

Date – 1/31/2012

Attendees: CJ Clark, Bill Tuthill, Brian Turmelle, Carl Barnhart, Carol Pyron, Roland Latvala, Ken Parker, John Braden, Rich Cornejo, Ted Eaton, Jeff Halnon, Hugh Wallace, Adam Ley, Dave Dubberke, Josh Ferry, Dharma Konda, Peter Elias, Bill Eklow, Sankaran Menon,

Missing with pre-excuse: Heiko Ehrenberg,

Missing: Bill Bruce, Brian Erickson, Kent NG, Lee Whetsel, Matthias Kamm , Mike Richetti, Neil Jacobson, Ted Cleggett, Adam Cron, Francisco Russi, John Seibold, Roger Sowada, Wim Driessen,

Agenda:

- 1) Patent Slides and Rules of Etiquette
- 2) Motion: Any differences between 1687 PDL and 1149.1 PDL will require the WG to use a different keyword.
 - a. Discussion: Are there currently differences in PDL commands? Which ones
 - b. What is a difference?
 - c. Are –options consider differences? There seemed to be some convergence that – options are allowed
- 3) Editor's motions for draft on iRead/iWrite
- 4) Educational material for discussion (we probably will not get to this once again, given the time for other motions)

Meeting Called to order at 10:44am EST

Minutes:

Review Patent Slide – Slide Presented to the Group.

Solicited input from anybody who is aware of patents that might read on our standard.

No responses

Review of Working Group Meeting Guidelines

No Objections

Ted's Motion –Con't from last Tuesday WG meeting

Any differences between 1687 and 1149.1 PDL will require the WG (1149.1) to use a different keyword

Ted – Goal is to work as best we can to align the concepts of PDL. If we are going to change the meaning or instruction of a keyword, we should have a different key word than one used in 1687.

-options are ok as long as they aren't creating the same behaviors as another command that already exists in the 1687 PDL

CJ – Answered one of the 3 question

Ted – -direct is not part of the motion.

CJ – Friday's meeting discussed iCALL

CJ – are there any differences in commands in Annex C

Ted – Annex C changes. Not sure which rev of Annex C you are referring to.

Ted – This is an overall goal. Not saying anything is bad. We should make an effort to consolidate the languages.

And be open for discussion on the commands

Carl – Differences would be on a command by command basis?

Ted – the quickest way to get this done is to show what 1687 PLD is and look at any short comings. And then decide what should be done

A lot of the changes to the PDL were based on a lack of documentation of 1687 PDL.

Behaviors of some commands were not fully understood. We should discuss as a group to decide if it can be used or not

Carl – this motion doesn't have enough definition for me to make decisions on my own. Any discussion of differences will have to be done on a command by command basis

Wim – is there a iPDLLLevel command?

Ted – there is an iPDLLLevel. But intention would be to get it close as possible to make it portable between tools.

Wim – agrees we should be as close to 1687 PDL as possible.

Ted – if the option is changing the behavior we should discuss it.

Josh – as a PDL developer, I don't see why iPDLLLevel is enough

Ted – adding PDL that can talk to any TDR register will give us a lot of power.

The PDL provider would need to make different PDL so it works right in the 1149.1 vs 1687 solutions

Josh –I know exactly how the code works. Why would I put in different functions.

Ted –then there would be a .1 name.

Josh – the hassle is that I would have to look up a different option.

Roland – For item 2a (agenda) is there an itemized list? Can we stick to the obvious commands and decide if those should be –options or a different name

Ted – items a,b,c are not part of any motion. These are CJ's comments.

There are only a few commands currently defined. We should go through each command and examine each one.

Francisco – in support in what Ted is talking about.

Convergence helps with designing tools.

It is a must that the 2 working groups agree to not create anything to keep from convergence.

Ted – part c (referring to agenda) is not accurate to my motion. It has nothing to do anything with the motion. Never indicated that something isn't allowed, I just said we should discuss it. Not part of the motion.

CJ – it is a clarification. Would icall- direct be allowed?

Ted- not sure. This needs to be discussed. It needs to be brought to the group and discussed openly

Ken – are there differences between the two languages that entertain deliberately using the same command differently

CJ- differences in the architecture of the 2 standards. What are the differences?

iApply 1149.1 only allows 1 instruction to be loaded

iApply 1687 you could have multiple instructions loaded.

Hugh – concurs with CJ.

CJ – iReset also has a difference.

Do we need to change iAPPLY for this subtle difference? Can we have – options?

Ken – wants to understand what we mean by difference. Any difference is very broad and general.

Ted – iApply, someone took the concept from 1687 wrote it down and put it in the draft. Limiting iApply to having only one register may be ok, but we should discuss it as a group.

CJ – iApply was modified based on papers, and reflector discussions.

Hugh – if you copy the syntax and make the same and reword it, will try and create the same function. You will have 2 standards with similar commands but not the same. Would be very upset if a command that was supposed to be the same but had subtle differences. As for the options as long as they are clear would be good.

Roland – the –options, is that part of Ted’s motion.

CJ – is Roland suggesting a friendly amendment to Ted’s motion

Roland –major differences would require a new keyword. Minor differences would require a –option

Jeff H – different standards have different use cases so commands will be different. If we require them to be the same then they won’t be doing what they should be doing.

Hugh – Ken Posse (1687) asked Hugh to be moderator and normalizer for the two languages.

CJ – Concern is that we are going to get into a bunch of legal ease to work out the differences. We already know there are behavioral differences iapply and ireset as example. We want to converge on one language. Not in favor of coming up with new commands just for some minor differences.

We talk about 1687 as a known standard, but it might be possible that 1687 hasn’t got everything correct. If we require that we follow everything 1687 does and they get it wrong than we will also have it wrong.

With the addendum to this motion it makes it more palatable.

If we add any new commands we will make sure those are not the same as 1687 commands.

Ted – please define major and minor. Who makes that decision?

1687 has had some slack, but the concepts have been hard and clear.

.1 PDL hasn’t been in existence for 5 years either so an open discussion would be healthy

John B – still seconds amended motion

Brian – motion to end discussion

Call the question.

No one objects

Original - Any differences between 1687 and 1149.1 PDL will require the WG (1149.1) to use a different keyword

Amended Motion - (A major differences between 1687 and 1149.1 PDL would require a new keyword. A Minor differences between 1687 and 1149.1 PDL would require a –option)

Adam L - Yes	Carl B. - No	Francisco R. - Yes	Josh F. - No
Bill E - Abstain	Carol P. - No	Jeff H. - Yes	Ken P. - Yes
Bill T. - Abstain	Craig S. - Yes	John B. - Yes	Peter E. - Yes
Brian T. -Yes	Dave D. – Yes	John S. -Yes	Roland L - Yes
Ted E. -Yes	Wim D. – Yes	Darmha K -Yes	

14 Yes / 3 No / 2 Abstain

Motion passes

Carl – No problem discussed with commands and syntax sent out.

iwrite/iread/iapply are proper subsets of the same command as in 1687
iTRST added this command

Carl - motion **that Clause C3.9.1 be adopted subject to further refinement**

Brian Seconds

Hugh – the whole document or just highlighted commands.

Carl – what we are voting on is the clause 3.9.1

CJ – this is the 5 commands and description.

Ted – questions about iwrite. What do the JTAG tools do with the compliance enable pins? Are we open for that discussion later on?

Carl – if any working group member makes a proposal it is an item for discussion yes.

Adam I- it doesn't seem that these are ready for adoption.

The text of the table with respect to the reset command is not consistent with the main body.

Carl – You may be right. But we are voting on the clause and not the table. The table will be updated

Wim – what is Unit under test?

Carl – could be IP, could be a board.

Ted – are we only talking about IP verification at the chip level or at the ip level. Having a hard time following how moving tap state machine to reset having to do with IP?

CJ – talking about the IP having a tap controller

Ted – how does the IP developer know what the implementation of the tap controller is. How does he know if there is clamp – hold?

Carl – what is in the verification test bench that the ip provider is going to use? That is his choice. We are not specifying that. He has a reset signal coming into his IP. All of that are details outside of the standard.

CJ – the issue of clamp – hold we have register fields and package files that the ic provider will provide. E

Ted – should make it clear that the reset is different than 1687

Call the question?

Brian calls the question

Chair calls if anyone objects.

No one objects

Clause C3.9.1 be adopted subject to further refinement

Adam L	- No	Carl B.	- Yes	Francisco R.	- Abstain	Josh F.	- Yes
Bill E	- Yes	Carol P.	- Yes	Jeff H.	- Yes	Ken P.	- Abstain
Bill T.	- Yes	Craig S.	- Yes	John B.	- Yes		
Brian T.	-Yes	Dave D.	- Abstain	John S.	-Abstain	Roland L	- Yes
Ted E.	-No	Wim D.	- Abstain	Darma K	- Yes		

11 Yes / 2 No / 5 Abstain

Francisco would like an official motion as a go between for 1687 and 1149.1
(This will need to be brought in the next meeting as the time has run out)

Meeting adjourned: 12:00 EST.

Summary of Motions Voted on
2 Motions voted on

- **A major differences between 1687 and 1149.1 PDL would require a new keyword. A Minor differences between 1687 and 1149.1 PDL would require a –option**
 - 14 Yes / 3 No / 2 Abstain
 - Passes
- **Clause 3.9.1to be adopted subject to further refinement**
 - 11 Yes / 2 No / 5 Abstain
 - Passes

Next Meeting: 2/7/2012 11:00 AM EST

NOTES:

1149.1 working group website - <http://grouper.ieee.org/groups/1149/1/>

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[ppppp11491p*pp03820#](#)

JOIN the meeting as GUEST – will have to ask to present

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

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