

Date – 02/07/2012

Attendees: CJ Clark, Bill Tuthill, Carl Barnhart, Sankaran Menon, Ted Eaton, Jeff Halnon, Hugh Wallace, Adam Ley, Brian Turmelle, Francisco Russi, Roland Latvala, Ken Parker, John Braden, Rich Cornejo, Josh Ferry, Dave Dubberke, Wim Driessen, Dharma Konda, Roger Sowada, Craig Stephan, Peter Elias, John Seibold, Carol Pyron,

Missing with pre-excuse: Bill Eklow, Heiko Ehrenberg, Adam Cron,

Missing: Bill Bruce, Brian Erickson, Kent NG, Lee Whetsel, Matthias Kamm , Mike Richetti, Neil Jacobson, Ted Cleggett,

Agenda:

- 1) Patent Slides and Rules of Etiquette
- 2) Use LiveMeeting “Raised Hand” to be recognized and take the floor
- 3) Editor’s motion for draft
- 4) PDL Level 1 discussion

Meeting Called to order at 10:30am 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

Review of

Carl - Motion that the 7 PDL level 0 commands in the flow control section C.3.9 be adopted with normal provision allowing for future editorial and minor technical changes.

Seconded by Josh

Ted – iCall is considered a flow control command. Can we have a discussion on contact space procedures before we get too far into iCall.

Did you mean for iCall to be part of that.. it wasn’t discussed very much

Carl – I did intend for that. This is to get iCall in the draft.

Are you going to give a presentation of this

Ted – haven’t received the examples of iCall in email request.

CJ – examples of iCall in Draft or on web

Ted –

CJ – still subject to change if there is another presentation on how to use it.

IEEE 1149.1- 2012 JTAG Working Group Minutes

Roland - - else in line 12753 is that a typo?

Carl - yes. That is a typo and have been corrected

Ken – added “iLoop and iuntil”? as discussed

Trying to make it look like common languages?

Carl – yes.

CJ – just a keyword change. Text will be the same.

Ken – iLoop 10 ?

Carl – the 10 needs to go away. Was a left over

John Braden calls question.

Adam L – No

Bill T. -Yes Craig S. -Yes Josh F -Yes Roland L. -Y

Brian T. -Yes Dave D. -Yes Roger S. -Yes

Carl B. -Yes Dharma K. -Yes Sankaran M. -Yes

Francisco R -Abstain Hugh W. -Abstain Jeff H - Abstain

John B. -Abstain John S. -Abstain Ken P - Abstain

Rich C. -Abstain Ted E. -Abstain Wim D. -Abstain

Motion Passes.

10 Y/1 N/9 A

PDL Level 1 Discussion

Section C.4

Will not define the full TCL language.

Will define the single commands

Wim – TCL comes inside PDL Level 1

How much knowledge of TCL do we need.

PDL 0 defines the constructs.

CJ – Standard will call out specific instructions that are used and defined.

IEEE1801 is an example of this.

The standard is in our private area

We are just giving the access mechanism to move data into and out of the scan database.

Ted – iGetGlobalStatus , now that we are allowing data to be read back into PDL commands, TCL is deciding if the system passed or fail.

Should we have a iPASS and iFAIL as well

CJ – sure. That is something you would want to specify a failure.

Ted – now that we have voted into flow control in PDL 0, do we need PDL level 1 (the complexities and duplications in 1149.1)

CJ – everyone is welcome to voice an option on that

Hugh – having the flow control in PDL 0 is a wise move.

Level 1 TCL means you need a TCL interpreter.
TCL does not have a BSDL. Provides a lot of flexibility but it also means that if someone parses Level 1 they also need to run a TCL interpreter.
Having the Flow Control in PDL 0 will give some flexibility
But a tool will have to run a TCL interpreter.
CJ – sure. A Tool will have to run a TCL interpreter.
We will encourage PDL 0 where possible.
There will be people that need PDL 1
Hugh – would advise having a BNF for commands.
CJ – there are standards that force the use of a TCL interpreter. And is not universal feeling that having a TCL interpreter is a setback.
Hugh – all saying is to leave a branch so you are not forced to use a TCL Interpreter.

Carl – remind everyone that we have the iPDLLevel Command to assert whether a command is Level 0 or Level1. So at the time you are going to run you know if you are dealing with Level 1 or level 0. We also have statements in the descriptive parts of the draft.

Hugh – the iLoop needs some variables. You will probably want the variable from the iLoop command so that you can use the loop counter as a variable inside your loop.

There is a slight overlap between pdl 0 and pdl1 if you want it to be useful.
Carl – if you want pdl 0 to give access to the loop counter please give a proposal. The only condition is to match the counter at the iMatchLoop
CJ – the use of global variables didn't get much support in 1687

1687 decision was if you wanted to use the variable than we would use TCL
Ted – Talking about 1687 should have no bearing on this working group. Agrees with Hugh that the iLoop command is limited without variable
CJ – feels that we should have support for idea before we speed time on it.

Josh F – Fan of PDL 1. Have lots of applications that need to be standardized so that it can be transferred from vendor to vendor.

Adam L – has a Point of order. Is concerned that the Chair is able to talk without “raising his hand” and can stop discussions at will.

CJ – as the chair I am driving us to a draft. Sees a responsibility of the Chair to make sure the discussion is on track and doesn't go into the weeds

Hugh – might be useful to ask for comments after someone speaks.

Ken - concern that interpreted language can't be syntax checked? Since it is not compiled. Erroneous syntax won't come about until you actually interpret the line. Is that true, that kind of delayed response to someone writing an error in the code. And is that what we want.

CJ – Always a concern that people do things wrong. Not sure that the standard can address that. Should be tested before you release it.

Hugh – You can do byte compiling, but not down from the top down. It is interpreted at the [] level.

Ted – agree that you can't know what is going to happen until you execute it.

Josh – If it comes down to having good PDL we should also have known good BSDLS.
Not always the case.

I don't think we will get all that stuff 100% verified.

Hugh – Implores that you get the Level 0 consolidated and then get the PDL level 1 done.

Feels that there is not enough examples in the draft and will contribute to them .

Carl – If you need an example that is not there, that is appropriate feedback to the editor.
Please note the specific example that is missing and what will help.

Peter – would like to give presentation again on pre and post conditions.

Next Friday

Carol – wants to make sure that whatever we deliver that we can validate. And it needs to be something that we can do easily with little effort and still have validation flows.

The steps involved are not that complex. Easy to document in PDL 0 and in PDL 1

Agrees with Wim that standard procedures like INIT SETUP should be in Level 0

ECID is more complicated, Might be more interesting to do something more complex.

In the end what we are going to be delivering for init run and init setup are templates.

We can't give a completely laid out totally executable procedure.

CJ - Everyone wants it to be easy to read, easy to write, easy to maintain

Carol – we do have specific actions to document though

CJ – compiled vs. not compiled. Like BSDL is compiled, but no guarantee that it is correct. Still need to execute something.

Carol – have a flow to verify that the BSDL matches the Silicon

CJ – right. You have a process. Sees something similar with PDL

Carol – will execute the PDL on IC Testers and simulation.

CJ – running into the syntax errors is something that would happen doing the verification that Carol speaks of

Wim – PDL 0 is a specification. Addition to BSDL file. Used to Specify things that can't be specified in BSDL.

Carl – Doesn't see any way a vendor providing debug and diagnostic support without providing PDL1. We should still support a level that allows for Diagnostics and debug, and PDL level 1 would be that.

Ted – Carl you indicated that we should have PDL 1 for diagnostics and debug of what? Init Setup ? or ASIC in general

Carl – in general. The basic idea that the IP provider would want to provide documentation more than just the basic production test.

Ted – not sure that the 1149.1 standard is the place for that. There are other standards that provide that.

CJ – Other standards in development might provide a method for debug, but might not use BSDL or the rules that we have. To change infrastructures to get there might not be the best action

John B – PDL1 . this is something we would make use of. Would want to make some advanced diagnoses.

Ted – Examples can be made for PLD1. We have the capability to specify a design that works without the confines of PDL0. We shouldn't necessarily convolute the .1 standard because of that.

Ken – Concurs with what Ted said.

Dharma – Would want at-speed tests for diagnostic.

CJ – it is more than displaying the diagnostics. But also how do we communicate the results of the diagnostics. PLD0 gives us load and go. PDL1 will give use the ability to an answer to board level engineer to figure out why they didn't get the correct values. Don't see a method of communicating the failure mechanism to the outside world with PDL0.

Meeting adjourned: 11:57 EST.

Summary of Motions Voted on
1 Motions voted on

- **The 7 PDL level 0 commands in the flow control section C.3.9 be adopted with normal provision allowing for future editorial and minor technical changes.**
- 10 Y/1 N/ 9 A
- Motion Passes

Next Meeting: 2/14/2012 11:00 AM EST

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

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