

Date – 07/24/2012

Attendees: CJ Clark, Bill Eklow, Bill Bruce, Bill Tuthill, Brian Turmelle, Carl Barnhart, Carol Pyron, Craig Stephan, Dave Dubberke, Dharma Konda, Francisco Russi, Heiko Ehrenberg, Hugh Wallace, Jeff Halnon, John Braden, John Seibold, Josh Ferry, Ken Parker, Roland Latvala, Wim Driessen,

Missing with pre-excuse: Roger Sowada, Adam Ley, Adam Cron ,

Missing: Lee Whetsel, Matthias Kamm , Mike Richetti, Neil Jacobson, Ted Cleggett, Brian Erickson, Scott Wilkinson, Jason Chodora , Sam McMillan
Kent NG, Sankaran Menon, Ted Eaton,
Peter Elias, Rich Cornejo,

Agenda:

- 1) Patent Slides and Rules of Etiquette
- 2) Use LiveMeeting “Raised Hand” to be recognized and take the floor
- 3) Review of 1500 examples, figures and text. Feedback given on syntax errors.
- 4) Rule synchronization with examples
Rule P was pointed out to contradict our B.17 figure as <broadcast values> are not the same as <selection values> and a reset of the selection value will not be on a list of broadcast values.
- 5) Please review 1500 examples and updated text for acceptance/non-acceptance vote next week.
- 6) Report on parsing. Currently parsing the proposed additions to R_A has not been successful. Doesn't mean it's not possible but prior to going to ballot we should validate that it parses.
- 7) Need to get this one on the table. Motion to go to submit draft for balloting when editor is ready. We need a few more reviews and incorporation of feedback given this past weekend. I would think we would be ready to submit the draft for ballot within two weeks. We can make minor tweaks/fixes to text during the balloting process as well which will be incorporated with balloters feedback.

Meeting Called to order at 10:40 am 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 Response

Review of Working Group Meeting Guidelines

No Objections

Review of 1500 examples

No comments made

Rule Synchronization

Rule changed

Carl – characterization is not quite accurate but recognized that rule that was written may not be clear

Selection field gates if a segment is connected to scan change.

When you have both selection field and broadcast field you are splitting the two.

Broadcast_field and selection_field almost identical

CJ – disagrees with Carl. Figure B.18 is an important figure. This is what is being proposed in JEDEC and important to support.

Selection of broadcast does not need to be on every segment.

Ability to broadcast to each thing is the broadcast field. The select field is for selecting which output

IC vendor is responsible to build a chip that is workable. Not going to add extra rules to limit flexibility

Experience in industry is that 1500 is robust. Not that concerned that someone will insert that is broken.

We are trying to document what is there in the grammar.

Fears are unfounded. Set a large number of rules but need some flexibility.

Carl – agrees but saying that the gate_wsp only going to the first branch and if it happened to shut down the clock, you would not be able to access it again. It controls whether or not the WSP scan's

CJ – thinks we are being overly restrictive by saying that the broadcast field needs to be on every segment.

Hugh – shouldn't the WSP on its own TDR?

CJ – yes that would be another example.

Carol – can agree with CJ. People will do different things in scan chains and can document and describe it. Should have flexibility and allow for things in the future

Ken – Figure B.18 – if you select the 0 path which is just the wire. And clocking things through the cell wsp and out the SO. Are the bits in the Sel-WSP bits shifting?

Carl – update is not clocked. Capture and shift is blocked

CJ – the figure is not accurate. Not showing the full gating.

CJ – maybe add “some gating not shown” in figure heading

Bill B – in the PDL domain, how smart is PDL going to be to handle this. How does it know about the gating, etc? Or is this expected to be manually done.

Carl – it's supposed to be automatic

CJ – ability to determine if you are broadcasting or single selection mode is in the grammar. Seems conceivable automatic operation would be obtainable.

Bill B – where is boundary between what the tools are supposed to

CJ – user would have to enable the broadcast at the moment. But the standard has enough information to set the broadcast bit

Carl – how to write the rule? Original rule before broadcast, the select field had to be outside of the hierarchy. But not true.

Should remove P1, but does anything go in its place. What does accessible mean?

CJ - Broadcast could be thought of as not gating. One that turns on a chain rather than shut it off. More of an enabling function.

Carl – do we remove 1 and have an unverifiable situation?

CJ – comfortable with modern tools that insert and verify for 1500

Figure may be hanging you up because of only 1 path coming across.

CJ – broadcast is orthogonal from select

Carl – can't be.

CJ – selection rule says there should be one chain defined.

Selection is used for selecting the path

Broadcast is for distributing

Rule that is in place is enough, says that the select mux has to select a valid path.

If a value goes into Broadcast and effects the chain so nothing can scan through will violate the select mux rule.

Carl – sel_wsp has to be duplicated in the gate_wsp to minimize the number of wires.

CJ – rule already on the select mux that this mux has to select a valid path which would include any other element or architecture which would say nothing can prevent that selection. Carl will add to the rule include broadcast field so that it cannot affect that selection.

Ken – picture doesn't show what you just said (figure b.18)

Carl – it's in the code.. part of the example. Selection values and broadcast values are repeated.

Ken – save some wires by putting some constraints on what the software is doing

CJ – doesn't seem to be a way to get the extra wires across the barrier.

Ken – point is there could be illegal configuration and the constraints or tools need to work around it. Possible someone could design or express it such that there could be a trap and needs to be recognized and avoided.

Roland what if the customer doesn't define broadcast at all? How do you define it if you want to propagate one of the valid path but no broadcast.

Carl – gate_wsp would be called broadcast but wouldn't do any broadcast.

Initial point was that the separation barrier, the gating might have to be local and need a separate register to do that. Would still document it with broadcast field

Roland – are those fields mandatory. can you write code without it?

Carl – yes. But would not allow automation

CJ – could create a select field and code that as being the values of the select mux.

Roland – didn't want to get locked into defining broadcast all the time.

Ken – is it important to define a broadcast but not tell people about it.

CJ – true.

Ken – shall not be a field in a hierarchy of ...” how do you know where the hierarchy is.

Carl – important part is that

Carl – keep 2 and change 1

CJ – will change text and figure and vote next week.

CJ – need to prove out parsing to move to vote for ballot.

Status on Parsing

Having some difficult on select values.

CJ – let's look at 1500 examples and move to consensus so we don't have to bring it back to the meeting. Let's try and resolve issues on the reflector.

Ken – requests a new copy of the draft to review.

Carl – is working on it.

CJ would like to vote on this section next meeting and late august move forward voting for the draft.

Meeting adjourned: 12:04 pm EST.

Summary of Motions Voted on

0 Motions voted on

Next Meeting: 7/31/2012 10:30 AM EST

NOTES:

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

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Meeting time: Tuesdays 10:30 AM (EST) (Recurring)

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