Date - 04/26/2011

Attendees: CJ Clark, Bill Tuthill, Brian Turmelle, Carl Barnhart, Adam Cron, Ken Parker, John Braden, Wim Driessen, Craig Stephan, Roland Latvala, Dave Dubberke, Francisco Russi, Carol Pyron,

Missing with pre-excuse, Adam Ley,

Missing: Lee Whetsel, Neil Jacobson, Bill Eklow, Ted Eaton, Mike Richetti, Heiko Ehrenberg, Ted Cleggett,

Agenda:

- 1) 11:00 Patent Slides and Rules of Etiquette
- 2) 11:05 Russi Segmented Boundary Register
- 3) 11:20 Clause 9
 - 1. Wrap up
- 4) 11:25 Clause 11
 - 1. Wrap up
- 5) 11:30 PDL Annex C
 - 1. Comments on Comments
 - 2. iTarget/iCall
- 6) 11:55 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

Wrap up of Clause 9 changes to date Carl had distributed updated clause 9 on email

Ken is happy with what has been done so far

Other improvements have been made as well and we will take a look at it later when all changes made and re-evaluate

Clause 11

No one had any comments on Clause 11.

Several people had responded to Carl with comments on Clause 11 over email and Carl has incorporated that feedback.

Carl moves to adopt changes made in clause 11 without prejudice to future changes with the modifications we heard verbally

Ken Seconds

No discussion related to motion No objections Motion passes unanimously

Carl thanks the group for their hard work in reviewing the sections CJ would like to target the September meeting to have the draft voted on To do this CJ wants to wrap up draft by June to get it done in 2011

Segmented Boundary Register

Francisco: partition the boundary scan register in similar way that we are doing with test data register

Carl: is this to allow you to pick up a predefined piece of the BSR or access different pieces of the BSR at different times

Francisco: wants to partition the BSR with different instructions (like TDRs)

Wants to use segments of the boundary scan register to be able to shorten the size of the BSR chain when targeting a specific group of IO

Expand the concept that is in figure 9.2, provide similar technique to partition the boundary scan chain

CJ: the boundary register is one whole chain because the update of all the pins needs to happen at the same time.

You can partition the boundary register already with a user defined instruction to segment the BSR

Francisco: disagrees. The standard doesn't say anything about how to treat the other bits when you use a user defined instructions.

Francisco: No standardization in regards with how to partition the boundary register.

Need to spell out what is and is not allowed

Carol: when you define your subset of bits of the BSR, do you need to know that the bits are part of the boundary register or just a TDR.

Francisco: proposal is to partition the BSR chain. Not a TDR

CJ would like Francisco to put this discussion on hold as Francisco not connected to the meeting to present any diagrams or slides and to allow Francisco time to create some slides and come back.

Carol agrees that some slides would help the discussion

Carol and CJ both feel this ability is already described and allowed by the standard

PDL Annex C

iComment – comment string that lets the tool understand that you want to pass on to another level

iRunLoop – does not have a time parameter p1687. Would be useful if we had a time (seconds) parameter along with the number of clocks parameter.

Ken: can also be the max of the two parameters.

Adam C: can't the tool that reads the iRunLoop figure out the number of clocks.

IEEE 1149.1- 2011 Boundary Scan Working Group Minutes

CJ: as a IP provider you might not know the frequency. So you would need to give the wait in a statement of time

Carl: if both are specified than both need to be satisfied.

CJ: doesn't make sense to support system clock. Prefer free running system clock.

iApply – added loopUntil. Added Label String so you can track iApply during debug. Label string is optional

iClock – is defining system clock.

iClockOverride - override definition of system clock when it is generated on-chip

Ken: iClock/iClockOverride is beyond what we are going to do. If we accept it we can parse it as a NOP to allow you not to make a syntax error

CJ: we do have the levels so an IP provider can describe the PDL as being 1149.1 PDL

CJ: would like to see an error that says the instructions are not supported Carl: would recommend that these should be taken out of the table Adam C: hesitate to list it and then syntax error on it. Most people wouldn't want to write multiple versions of the PDL. Maybe have a warning and not error out Roland: are their multiple versions of level 0 PDL

CJ: yes. 1687 version and 1149.1 version

Adam: is there a problem having too many differences between 1687 and 11491.1 PDL. Subtractive is ok but worried about adding parameters and changing parameter meanings. CJ: only want to be subtractive or BASELINE PDL. And then 1687 adds to it.

Things shown in the table are still in flux in 1687.

Wants to be a subset and not an add-on

Carol: wants to see the iClock statement. Would like to be able to stimulate the sysclk. The sysclk parameter in iRunLoop is not enough

John: if your BIST is defined as a certain number of system clocks and you have different multipliers. You would need to have control of these. The iClock/iClockOverride are good things to have.

Meeting adjourned: 12:00 EST.

Next Meeting: 5/3/2011 11:00 AM EST

1 Motion Made

Motion to accept changes to date on clause 11 without prejudice to changes in the future.

Motion Passed Unanimously

NOTES:

Now using LiveMeeting as audio/video conference software

JOIN the meeting as PRESENTER - this way you will not need to be made a presenter

Just one person needs to connect VOIP to phone system. It's usually me, but if you connect first, you can connect the VOIP to the dial-in with the sequence below. Within LiveMeeting you must connect the Audio to enable the Conference calls. (Just we don't want to do it more than once).

Voice and Video -> Options -> Connect Telephone and Computer Audio -> Dialing Keys

ppppp11491p*pp03820#

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

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

AUDIO INFORMATION

-Computer Audio(Recommended)

To use computer audio, you need speakers and microphone, or a headset.

-Telephone conferencing

Use the information below to connect:

Toll: +1 (218) 862-1526

Participant code: 11491

FIRST-TIME USERS

To save time before the meeting, <u>check your system</u> to make sure it is ready to use Office Live Meeting.

TROUBLESHOOTING

Unable to join the meeting? Follow these steps:

- 1. Copy this address and paste it into your web browser: https://www.livemeeting.com/cc/intellitech/join
- 2. Copy and paste the required information:

Meeting ID: F9R6S6 Entry Code: k/d6<@M6j

Location: https://www.livemeeting.com/cc/intellitech
If you still cannot enter the meeting, contact support.

NOTICE

Microsoft Office Live Meeting can be used to record meetings. By participating in this meeting, you agree that your communications may be monitored or recorded at any time during the meeting.

IEEE 1149.1- 2011 Boundary Scan Working Group Minutes