

Date – 1/12/2015

Attendees: CJ Clark, Adam Ley, Bill Tuthill, Brian Turmelle, Craig Stephan, Dharma Konda, Dwayne Burek, Frans de Jong, Jon Colburn, Josh Ferry, Marc Hutner, Steve Sunter, Tapan J Chakraborty, Kathryn Bennett,

Absent with Excuse: Bob Gottlieb,

Not present for ¾ of meeting:

Missing: Bill Huott, Carol Pyron, Jim Wilson, Kent Ng, Kevin Gorman, Tom Wayers, Heiko Ehrenburg, Dave Armstrong, Roger Sowada, Zahi Abuhanmdeh, Mike Ricchetti, Saman Adham, Teresa McLaurin, Philippe Lebourg, Ismed Hartanto, Gurgen Harutyunyan, Gobinathan Athimolom,

Agenda:

- 1) Patent Slide
 - a. Letters sent to potential essential patents, three from Steve and one from Adam L.
- 2) 15 minute presentation from Kathryn Bennet
- 3) Q&A
- 4) Review of draft 50.

Meeting Called to order at 11:06 am EST

Minutes:

Review Patent Slide – Slides Presented to the Group.

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

No other responses noted.

Power Point presentation for Kathryn Bennet was sent to reflector by CJ on 1/12/2015

Benefits of Developing Standards at IEEE

IEEE is the world's largest professional association for the advancement of technology
IEEE supports standards from concept to completion

Guided by 5 basic principles

Due Process – having highly visible procedures for standards creation

Openness – all interested parties can participate

Consensus – clearly defined percentage of those in balloting group vote to approve draft

Balance – ensures that balloting groups include all interested parties

Right of Appeal – appeal process

OpenStand

Movement dedicated to promoting a set of principles that establish the Modern Paradigm for Standards. Encourages the development of market driven standards that are global and open

IEEE Endorses OpenStand

Affirmation jointly signed by IEEE, IETF, IAB, Internet Society and W3C

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Q&A

Steve – what is “availability to all”?

Kathryn – IEEE sells standards so anyone can go out and purchase an IEEE standard.

No further questions were asked.

Review of draft v50

Updated section 5.1.2 Recommendations on RESET10*

Steve – if one does nothing with the RESET and TRST signal it will be compliant with 1149.10? There are no rules for those signals to go anywhere. Compliance isn't relevant.

Nothing is being added

CJ – a recommendation to route the signals to 1149.1 registers if you want to be 1149.1 compliant.

CJ – RESET10* will be described in PDL section. Using same PDL from 1149.1 2014 standard.

CJ – Toggling TRST10* would reset TAP. Does not have to reset registers. Only registers connected to TRST10*. Should not connect signals to registers that enable compliance.

Dwayne – compliance enable clarification. Dot10 enable needs to be a data register and not from the TAP

Steve – on the dot1 TAP there is a TRST pin that goes to TAP Controller. TRST10 goes into TAP controller with TRST? Or does it get OR'd with TRST pin.

CJ – Scan Channel interface is not Pins; TRST10 is a signal that goes to the chip. TRST goes into the TAP on a Pin.

Steve will draw up a picture to express his concerns

Section 7.1.2 Syntax

CJ will begin working on section 9 PDL

Steve – Data_size would suggest it is the parallel width coming out of the HSTAP going into the PEDDA

Frans – is that the maximum size?

Steve – No. Information that you have an HSTAP that is n-bits wide. What is n

Steve – None of the Scenarios sent out are this definition data_size. It is a new scenario.

Frans – need to rethink it. Have come up with a “4th possibility” that we need to review.

Steve – When exploring the 3 scenarios you get into serious problems. Leave the PEDDA design as is. And then none of the definitions are appropriate. But would suggest that data_size is the parallel data width size coming from PEDDA

CJ – parallel interface isn't necessarily the size of the data_size. it is in the interleave of 1

Steve – what is minimum scan data?

CJ – scan data is the active channel that is participating.

CJ – when we group in interleaves in 4 or 8. We can deliver the data as packed. Need to add some clarification to draft on packed and unpacked data.

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Steve – will need to know what the parallel port size (n). Without knowing it will result in complex circuitry. It should get documented somewhere.

Jon – concerned with efficiency with padding data. If you don't have padding data the data is consumed at arbitrarily different speeds. So the padding the data is necessary to match the intended shift speed? These ideas that you could arbitrarily drop scan channels you have to deal with where the data goes and the consumption rate on the outside needs to go up.

CJ – agreed.

CJ – some common sense stuff we can do to make sure it is efficient.

CJ – one method is XON/XOFF.

Jon – XON/XOFF isn't really workable in the scan data. By the time the ATE received it you have gone too far.

CJ – might be depending on turnaround time.

CJ – second method is only turn on one channel which would be inefficient but fast enough for the scan channel.

Jon – solved data efficiently by having ATE handle encoding. Trying to make up for it on the line is going to cause problems.

CJ – might want to add a frequency attribute.

CJ – could have fixed data width and know how fast you can send the data in. Allow you to calculate IDLES ahead of time.

Send any New Business requests to the reflector

Please use reflector to review what is in the latest version of the draft. Please send any comments on the new material to the reflector. This will let us get a start on the material before the meeting. Please include anything that needs to be updated or anything you would like discussed

Motion to Adjourn: Jon

Seconded: Bill

Meeting adjourned: 12:00pm EST

Next Meeting:

Jan 19^h, 2015 11:00am

Motion Summary

0 motions made

Action Items

~~*Bill Tuthill – 10-21-2013 – Add minutes and Attendance spreadsheet to the website.*~~

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~~CJ ————— 11-11-2013 ———— Reach out to ATE industry and Probe Industry to get update on future of ATE equipment to see which data speeds and protocols they are heading towards.~~

~~Philippe – Look into alternative method to create control information (pause, start, terminate, etc.) rather than using K characters in packet.~~

~~Bob – create a case study to show use of Attributes~~

~~Frans – will start some block diagrams of a simple use case to help illustrate the current architecture~~

~~Dwayne – present to the group his ideas for a simplified scheme – Direct Interface.~~

~~Adam – invite someone from IEEE to speak on IEEE benefits of standardization at WG meeting~~

Call for Essential Patent notes

Adam Ley 12/1/2014

PN, TTL, AN

7348796, METHOD AND SYSTEM FOR NETWORK-ON-CHIP AND OTHER INTEGRATED CIRCUIT ARCHITECTURES, DAFCA INC.

Steve Sunter 11/17/2014

1. US 7610532 "Serializer/de-serializer bus controller interface" Avago, granted 2009
2. US 7739567 "Utilizing serializer-deserializer transmit and receive pads for parallel scan test data" Avago, granted 2010
3. US 8543876 "Method and apparatus for serial scan test data delivery" Altera, granted 2014

NOTES:

1149.10 working group website - <http://grouper.ieee.org/groups/1149/10/>

Here is the WebEx conference link.

<https://meetings.webex.com/collabs/meetings/join?uuid=MAG12PB7HN5W24AM2EOKIOM9KS-KERT>

You can use VOIP on your computer or dial-in using the phone number below.

Audio Connection

+1-415-655-0001

Access code: 194 196 960