

IEEE 1149.10 High Speed JTAG Working Group Minutes

Date – 12/15/2014

Attendees: CJ Clark, Adam Ley, Bill Tuthill, Bob Gottlieb, Brian Turmelle, Craig Stephan, Dharma Konda, Gobinathan Athimolom, Jon Colburn, Josh Ferry, Steve Sunter, Tapan J Chakraborty,

Absent with Excuse: Frans de Jong

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, Dwayne Burek, Zahi Abuhanmdeh, Mike Ricchetti, Saman Adham, Teresa McLaurin, Philippe Lebourg, Ismed Hartanto, Marc Hutner, Gurgen Harutyunyan, Tapan J Chakraborty,

Agenda:

- 1) Patent Slide
- 2) Upcoming meetings over holidays:
 - do we meet next week or week after?
- 3) Review draft V48
 - We need to get some substance on the PDL Clause so the reader knows how the packets are sourced.
- 4) Adjourn

Meeting Called to order at 11:12 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 other responses noted.

Upcoming meetings

Motion to have next meeting on Jan 5th

Made by Bob

Seconded by Bill

Adam	yes	Dharma	yes
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Bill	yes	Gobi	NA
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Bob	yes	Jon	yes
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Brian	yes	Josh	NA
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Craig	yes	Steve	yes
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Motion passes

8/0/0

Version 48 Review

Updated rules in section 4.1.2 for HSTAP

Nothing that says can't perform steps through HSTAP to disable 1149.10 to get back into mission mode.

Added NOTE to rule h) in 5.1.2

Asserting RESET10* or TRST10* does not change HSTAP compliance

Steve – what does RESET10 or TRST10 do when it is asserted? What does it do?

Is there intent that it does the same thing as DOT1?

CJ - there is text in the draft that says that you can route the DOT1 reset to the RESET10

Not defining what is on the right of the Scan Channel Interface. Guidance in the draft as to what to do with the signal. Don't want to create a rule to block the designer from being able to use the HSTAP.

Steve – no detail on what it does when it happens. Should say that there is no implication as to what it does. And the USER doesn't have any idea what happens if RESET10* is asserted. Could say that it is available signal for general purpose usage.

No other comments

6.2.3 Examples

Do we want to use “subclause” or just leave 7.4

Josh – stick with subclause.

Section 6.4.2 Rules

Some clean up to make it clearer

Added rules c) d) e) and f)

TRST10* needs to be asserted 2 times. It will be asserted until the next packet comes along.. No momentary pulse due to the packet.

Josh – section 6.1.2 Permissions. Before SO and after SOP. Should it be EOP?

CJ – those characters IDEL/ ERROR/ XONXOFF/ CLEAR/ can happen at any point in a packet. Valid before and after SOP

COMPLIANCE cannot be sent at any time.

Bob – thinks wording is awkward. The intent is that those can happen at any time?

CJ – make it “before or after an SOP”?

Bob – can they happen anytime?

CJ – within the stream of data anytime

Steve –they can happen within a packet.

CJ – can say it may appear inside or outside of a transmission. Will edit and update offline

Steve – if you used the COMPLIANCE character to enable you would also need to re-enable after a clear. Through the DOT1 interface it would remain enabled

CJ – don't see that in there. We can make it clearer. The clear shouldn't change the compliance mode, but flush out the number of packets you are sending in.

Shouldn't require the re-enable of compliance.

Tapan – realign lane and start from there?

IEEE 1149.10 High Speed JTAG Working Group Minutes

CJ – if you were doing channel bonding you would need to re channel bond.

Tapan – more involved then?

CJ – requires you start again. Doesn't clear the configuration. We already have a command to clear the command register. Reset command will clear target ID. You wouldn't need to re do that after CLEAR.

Steve – you do not need to reassign a target.

CJ – don't see the reason for that. Purpose of the clear is to flush out communication channel so the data isn't hung up waiting. Target ID isn't something that would be messed up that you would need to clear it out. If you did want to clear it we have a packet for that to clear the Target ID.

Steve –should make this clearer then.

CJ –will add section for CLEAR character and the limits of it.

Steve – Item 7 (from email) have picture to show.

(Sharing Steve's Desktop)

Example from Figure 6-9 in draft.

Channel-Select Word - needs restrictions here. Would create messy logic if there are not restrictions.

Tapan – why should standard stop anyone from putting the logic there they want.

Steve – don't think that this standard meant to be implementing complex crossbars

Bob – we should have some sort of language that the designs communication how to hook up chains. I don't think we should have rules, but she should have language which channels to hook up to which chains?

Steve – what we need to be dealing with is nibbles and bytes instead of bits.

CJ – if you have an odd number of scan chains that logic is much greater. If you work with nibbles and bytes you will have less logic. If you go to the Scan Channel attribute it will tell the tool what you can accomplish with the design.

Bob – I don't think we have any expectation of doing any channel at any time.

Steve- the way the standard is now the user is free to put any bits in the Channel – Select word.

CJ – wasn't saying that isn't practical just that the logic would be greater. Not clear why we would restrict it. Communicate what we did through the Scan Channel Attribute.

Steve – how do you tell the user what the restrictions are?

CJ – go to Scan Channel Attribute. How you communicate which scan channels can be used in the group. Defines which channels can be used together.

Steve –thinks this is an issue that will need to sort out next year.

CJ – not sure how it is an issue other than it is more logic that you want to do.

Steve – the amount of logic because absurdly huge

If we have a specific setup we don't have a way to communicate to the user about how the channels are setup .

CJ – pretty sure it is in the SCAN CHANNEL Attribute. If we need more wording to ease the concern we can add it.

Send any New Business requests to the reflector

IEEE 1149.10 High Speed JTAG Working Group Minutes

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: Josh
Meeting adjourned: 12:03pm EST

Next Meeting:
Jan 5th, 2015 11:00am

Motion Summary

1 motions made

Next meeting is on Jan 5th, 2015

Passed

8/0/0

Action Items

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

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

IEEE 1149.10 High Speed JTAG Working Group Minutes

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