

**Date – 08/18/2014**

**Attendees:** CJ Clark, Bill Tuthill, Brian Turmelle, Bob Gottlieb, Craig Stephan, Dharma Konda, Frans de Jong, Gobinathan Athimolom, Ismed Hartanto, Jon Colburn, Marc Hutner, Steve Sunter,

**Absent with Excuse :**

**Not Present for  $\frac{3}{4}$  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, Gurgen Harutyunyan, Adam Ley, Teresa McLaurin, Tapan J Chakraborty, Josh Ferry, Philippe Lebourg,

**Agenda:**

- 1) Patent Slide
- 2) Review of V32 draft. This draft is on the website. I'll just highlight some of the changes and ask that you review and comment for next week. This version also reflects the decision of the WG with respect to the RAW packet.  
Those that provided feedback, please check that I incorporated the changes you were looking for.
- 3) New Business
- 4) Adjourn

**Meeting Called to order at 11:02 am EDT**

**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 v32 of draft that is on the website

Clause 7.2

HSTAP Attribute

Created parameters for BSDL

Table 7-2

Latency\_1149\_10 – updated definition.

Frans – add unit to the description

CJ – real number in seconds

CJ – latency doesn't include data rate. Understood that receiver has to receive whole 32 bit word. That is data rate and not latency. And the amount of time the transmitter has to transmit data that also is the data rate.

Frans- what Steve meant was probably system and response time.

CJ – right perhaps thinking in terms of the response time

CJ – Do we think that it is still missing something??

How long might it take before data comes back?

Bob – more of a question about how the tester can handle it?

Marc – minimum and maximum makes the window for the tester.

Bob – is that variability persistent for all the packets?

Marc – yes I think that is the best way to think about it.

If data comes back late we need to know when to stop looking

Bob – no training on the link? Is it packet per packet?

Marc – training is a bigger topic. But once we syn'd up with what the link is supposed to do, then it is straightforward in terms of max and min.

CJ – different packet types could have varying delays.

The HSTAP would be responsible to send IDLE characters.

TXCLOCK and SYSCLOCK added

Fields are optional. Likely though that you will need both of them.

Made changes to align TXCLOCK and SYSCLOCK parameters

Updated rules to keep values consistent

f.) captures min/max from last week's meeting

g) Semantic check

i) & j) checks for min and max

Examples were updated.

Steve - example for HSTAP Latency should have bigger number. Should be at least greater than one parallel clock. Absolute min latency would one parallel clock cycle.

Marc – could add a point to start measuring latency. Could state that at the end of the command word.

CJ - was described generically. Could narrow it to be command

Steve – depends on which command you send it.

CJ – when it comes to the command might want to implement it the way it was described. Immediately grab the command and push it to the serial to parallel converter. Doesn't necessarily have to have a delay.

Could take receive command and set the upper bit and create the response and send it back immediately. don't have scan data ready and you would be sending IDLE words.

Steve – latency is intended to include variegations of commands.

Bob – saying that latency is the same and handling the variability with IDLEs

CJ – latency is more related to build in delay to get response back from command.

Steve – what character do you mean in your description?

CJ – any allowable character.

CJ – buffering data is allowed and so is not buffering and turning around response data as soon as a character comes in.

Bob – difficult to keep up with latency turning around data like that.

Once we start getting data remotely it would be difficult to keep up with that and need to make sure we can handle that.

CJ – sending IDLEs is acceptable and it helps keep the window.

## IEEE 1149.10 High Speed JTAG Working Group Minutes

Steve – talking about phase delay?  
CJ – yes.

SPI example

Frans – first glance it looks ok

7.3 Packet Map parameters

Updated table 7-3

Updated Examples

7.5 Compliance\_1149\_10 attribute

Updated example.

Call for New Business

No new business

Please use reflector to review what is in the Draft.

Please send comments to reflector.

Anything that needs to be updated or you would like discussed

**Motion to Adjourn: Frans**

**Seconded: Bill**

**Meeting adjourned: 11:56 pm EDT**

**Next Meeting:**

August 25<sup>th</sup>, 2014 11:00am

*Motion Summary*

*0 motions made*

*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.*~~

NOTES:

## IEEE 1149.10 High Speed JTAG Working Group Minutes

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