

Date – 9/15/2014

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

Absent with Excuse :

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, Gurgen Harutyunyan, Teresa McLaurin, Marc Hutner,

Agenda:

- 1) Patent Slide
 - 2) Quick review of V37.
 - a. Feedback from group/comments
 - 3) Discussion of this proposal and IEEE standardization
 - 4) New business.
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- 1)

Meeting Called to order at 11:00 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

Send New Business request to reflector

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

Frans – no objections to emails.

Reviewed review from Steve Sunter sent to reflector.

CJ made updates to draft to incorporate some of Steve's suggestions.

Bob – likes the way it's going. Happy with Diagrams.

Jon – looking good. Needs to do a thorough review.

Scan Channel Association.

Needs to show another scan channel example

If you are applying patterns to the internal scan channels. You would not be able to easily access into additional on chip instruments while you are applying the patterns. If you would want to see them in one group so you could easily add the ability for debug and want to strip them out for production.

Bob – thought we would choose our groups to do that.. What is the limitation?

CJ – Just showing that this example doesn't promote that flexibility. Need to provide a second example to show the benefit to get to JTAG based monitors concurrently.

CJ – issue with ICSU. Getting convoluted with both instruction register scan and data register scan. The ICSU bit is being set for the whole packet.

Should Instruction scan be its own packet?

Drop the "I" on the ICSU and specify the instruction register is always Scan Channel 0 in any group. Then it becomes an Instruction register Scan and don't need extra bit to tell us that. Then you could have scan channel 0 through scan channel 12 intermixed. Might be more efficient.

Bob – this is for standalone instructions.

Makes sense

CJ – if you have a tap based designed you might need to load the instruction register to change the mode. to map the 1149.1 behavior into p1149.10 we need to load the instruction into the instruction register.

Frans – in general dropping the I lets you split up commands and data and would be a good move. Would concur with this.

CJ – will need to add rules to specify what event happens first. If the instruction is on Channel 0 than there needs to be a sequence as to what is loaded first.

Bob – not sure about it. If you need instruction before data you would put that in a different packet.

CJ – define instruction register to be scan channel 0. Required to create PEDDA design to have instruction register on Channel 0.

Bob – and that would be respect with every group?

CJ – every group that needs to use it. No instruction register in group1 (in example) so you wouldn't be forced to use it. But if you do define an Instruction than it would go into Channel 0

Bob – is it at 0 to ensure it is operated before the other data channels.

CJ – doesn't have to but that would be a good solution.

Trying to map the PDL into the access mechanism.

Bit for ICSU isn't the right approach. Any idea to solve it is on the table for discussion.

Steve- setting aside channel 0 of every group might be overkill.

CJ – key there is that in group one, instruction register isn't in the group and not forced to put it as channel 0.

PEDDA should be built to issue instruction.

Steve – if the order is important. Instruction before data is acted on. You would send in a packet with payload instruction and then send in packet with payload of data.

Or if you could have the instruction come in the same time as data and nothing special 0.

CJ – the PDL will specify the order. There are things implied by the 1149.1 TAP protocol. When you do an Iapply in PDL, the instruction register could be loaded by the tool rather than user.

PEDDA should do IR Scan than update and then shifting of Data register to be compatible with TAP.

Bob – not sure it is necessary. Think it is easier to say that in a given packet the channels that are access, there is no guarantee of the order. If you need a guarantee of order you send in separate packets. Wouldn't be much overhead and easier implementation.

CJ – so the tool would have to convert that into 2 separate packets if Instruction needs to be first.

Steve – when we send in a payload that contains all the information, is channel zero going to be loaded ahead of channel 1, 2 so on? So choosing channel 0 ensure that data goes to HSTAP first?

CJ – no there are no rules for that.

Bob – shifting thousand bits and instruction is last data than what do we do with those thousand bits if the instruction is trying to do something with those bits.

Steve – if you give it data and instruction at the same time there is confusion as to what happens first. If we send in instruction we don't want to send in instruction and data at the same time. Going to send in either data for instruction register or for data register not both at the same time.

Bob – goes back to argument with ICSU. Packet is all instruction or all data.

CJ – starting to think what we had was fine. Maybe rules need to be defined clearer.

Steve – still need ICSU to separate instruction from data. Could you have IRs associated with different groups?

CJ – one instruction register but assigned to different groups.

Steve – no need to have an Instruction register associated with each group since there is only one

CJ – no rule in 1149.1 that says there is a single instruction to target multiple instruments.

Steve – with dot 10 you have specific address of registers. Groups and channels.

CJ – agree, but think we need to provide some guidance somewhere. Nothing prohibiting anyone from having 2 instructions for reading an Instrument.

Bob – concerned how to convert 1149.1 to 1149.10 code or capability thing?

CJ – both really.

Bob – thinking that instruction scans can go away because they are telling you which data registers you are trying to talk to so you don't need those instruction scans anymore.

CJ – when the instrument has 2 instructions to load, the tool wouldn't know which one to use.

Bob – would need to do it in its only packet to change the data.

CJ – may have convinced that what we have fits and no need to change ICSU.

CJ – unless anyone objects, will leave ICSU as it is.

Will delete section on changing this.

Motion to Adjourn: Bill

Seconded: Frans

Meeting adjourned: 12:00 pm EDT

Next Meeting:

Sept 22nd, 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:

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