

Date – 01/27/2014

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

Absent with Excuse: Adam LeyMarc Hutner, Philippe Lebourg, Teresa McLaurin,
Not Present for ¾ of meeting:

Missing: Bill Huott, Carol Pyron, Jim Wilson, Kent Ng, Kevin Gorman, Saman Adham, Tom Waayers, Dave Armstrong, Heiko Ehrenburg, Mike Ricchetti, Gurgun Harutyunyan,, Zahi Abuhanmdeh,

Agenda:

- 1) Patent Slides
- 2) Philippe's proposal for error correction
- 3) Review of slide 'fix-ups' (Slide V11).
- 4) More on BSDL Attributes
- 5) New Business

Meeting Called to order at 11:11 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 Response

Review of slide fix ups

New figure on slide 31

Showing scan chains with multiple cores

Slide 32 shows updated interleave scan packet

Bob – Slide 31. Can we use more bandwidth on the way in to interleave more? If we configure it first we can't switch bit to bit to get more bandwidth. Can you get enable chain to change on the fly to use more bandwidth?

CJ – sounds complex. Would need to see it.

Bob – if the chip could take in data at 100 MHz into decompressor, we can't use more bandwidth until we switch scan chain 5

Bob will try and draw it up

CJ – SI5 is showing a gating and addressing is done through a scan mechanism

Tapan – as chips are getting bigger it is challenging to keep high chip speed. Can you keep high speed to accept data? If the speed goes down how efficient is this?

CJ – agreed. Objective of this proposal is how to deal with this. You can have more scan in and scan outs. So you can lower your shift rate without affecting your test time.

Tapan – no internal buffer to park data?

CJ – No this is not a practical solution.

Bob – we can handle as much bandwidth on the right side as we have chains.

Tapan – get rid of compressor and decompressor and have a lot of chains that can be loaded up.

CJ – some people might see an advantage to not use compressor. We won't make a rule to use compression. Should have flexibility to use it or not. Use either method direct accesses or compressors.

Bob – if I have 16 cores(different cores) don't see how we can get all of the chains back to this one thing. Would like to have a shared infrastructure that all the cores can share the info from sI5. Will draw that up

CJ – no rule that everything must be in pink box (slide 23)

Jon – at some point you have 5GB of data going in or out and if internal shift is 50 MHz you either have to have 100 channels or going to have to waste bandwidth.

Bob – that is what we can fix if we have fewer channels but if we send a 3 bit address we could interleave that bandwidth and be ok.

Bob – packet format needs to be consistent to cover all our use models. Just need packet to be flexible.

CJ – seeing it as a problem to solve as individuals and not as a working group. Providing the highway for the data.

Steve – what is the impact in terms of tester memory? If we have to use bandwidth, that is ok as long as it is not using tester memories. That would be one of the costs here.

CJ – don't think we will be using tester memory depending on the tester architecture.

The bandwidth would be regulated by the XON and XOFF from the tester. That would be at the physical layer.

Standard doesn't have to do everything. Nothing precluding you from using SERDES interface to do something and others through traditional scan.

Point of slide 31 was how to deal with non-symmetry between scan ins and scan outs. And see if we got the packet format correct. (Slide 32)

Tapan – suppose this proposal is implemented, does today's tester support this?

CJ – Marc or Dave might have a different perspective

There is a Level 1 tester (high end) can handle this. Below it is murky as to what tester can handle this.

New Business.

Motion to Adjourn : Frans

Seconded : Brian

Meeting adjourned: 12:02 EST

Next Meeting:

February 3rd, 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

NOTES:

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

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