Date – 5/4/2015
Attendees: CJ Clark, Bill Tuthill, Bob Gottlieb, Brian Turmelle, Craig Stephan, Dharma Konda, Gobinathan Athimolom, Gurgen Harutyunyan, Jon Colburn, Josh Ferry, Mike Ricchetti, 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, Zahi Abuhanmdeh,
Saman Adham, Teresa McLaurin, Philippe Lebourg,
Ismed Hartanto, John Braden, Adam Ley,
Dwayne Burek, Marc Hutner, Frans de Jong,

Agenda:

1) Patent Slide
2) Review of draft V57
3) New business
4) Adjourn

Meeting Called to order at 11:07 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.

Review of draft version 57
Modified scan packet. #FRAMES (number of frames found in payload)
Previous #PAYLOAD
Text also modified to use #FRAMES
Steve liked the way it was.
TargetR updated
ResetR updated
TYPE field changed from 8 to 16 bits
RAWR updated
16 bit padding added
SCANR updated
Figures updated
Added rules q & r
Updated SCAN packet figures to represent 32 bit boundary
BONDR updated

Scan Channel Associations

Frequency now assigned to each of the scan channels.

Tool wouldn't know what the frequency of the scan channel is.

Steve – do we support SERDES protocols would be more than one byte. ?
CJ – we don't.
Steve – we should say we support a Protocol that only has a one byte SOP
CJ – we don't support any protocol other than 1149.10
CJ – we are creating our own protocol. Not needing to say what we don't support in other protocols.
Steve- point is that our SOP character is an 8bit sequence. If there are two such character we can't tolerate such a phy.

Does anyone need to define more than a single byte /character that is an SOP?

If no than we can say we don't support
CJ – all the control characters are 8 bit values. A protocol might use 8 characters to define their protocol but that is neither here nor than in DOT 10

We defined the symbol that is the start of packet. But there is no limitation because we defined one symbol.
Steve- what about clocking? There has been no discussion of clocking. Adding the frequency for each scan channel is good. But no indication when clock cycle has occurred. Nothing in the standard to say when a clock cycle starts. Need to control how often a scan channel gets clocked.
Steve – Interleave size. Is there a practical application when does it need to be > 1?
CJ – standard shows example. Interleave size allows designer to make trade off to move scan data around. If you only want it to be 1 that is fine. Don't want to limit the field.
CJ asked for Steve's next point to bring up but Steve said to forget it.

Craig – New Configure Channel Select Packet to reduce overhead

Sent information out to reflector last week.

New Scan Packet that is reduced overhead that has new channel select packet sent first to configure it.
Jon – how much overhead are saving?
Craig – depends on the number of channel selects.
Bob – save that once per scan
CJ – currently each scan has the #ch-select and channel select.. Not much when you have 16 scan channels. However when you have 255 for #ch-select and then 255x16 bits (512 bytes for channel select) for each scan packet added that could be unwanted overhead.
CJ – not much savings for small number of ch_select words but more savings with lots of scan channels.
Bob – lots of scans it makes sense. Thousands of scans to the same channels it logically makes sense. But p[probably won't have that many channels to make a difference.
Jon – why not always has channel select as a separate packet and take it out of the scan data. And never have it in scan packet.
CJ – could leave it and introduce new packet.
Jon – a compliant interface would have to deal with data either way. Might be too much to add to the design.

CJ – so you are in favor of having one method.
Jon – Yes. So the configure applies until it changes.
Steve – would be all in the logic block. And would enable an entire block and not individual chains. So it wouldn't be much over head as it stands today
Bob – not going to individually address a thousand different channels.
CJ – it is probably one or another. Either Group enable or individual control.

Motion to adjourn: Brian
Seconded: Craig
Meeting adjourned: 12:06 pm EST

Next Meeting:
May 11th, 2015 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.***~~
~~***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

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