

Date – 22/June/2012

Minutes of the IEEE-1149.1 Working Group Friday meeting

Attendees:

Adam Ley
Bill Bruce
Hugh Wallace
Brian Turmelle
Carl Barnhart
Craig Stephan
CJ Clark
Ken Parker
Roland Latvala
Dharma Konda
Dave Dubberke
Heiko Ehrenberg
Francisco Russi
Peter Elias

Meeting called to order at 8:35 am MST (Arizona)

Current Draft: P1149 1 Draft 20120604.pdf

Agenda for today:

1. Review of the PDF for the TMP control register Carl distributed last night
2. “SEGSTART/SEGSEL/SEGMUX we did it wrong”?
3. COMPONENT_CONFORMANCE question from reflector ([didn't get to this today](#))

Some notes from today's call:

TMP Control Register updates

- Carl has reworked the TMP Control Register (section 16) to include the tmp-status bit. The register is now 2 bits long. (tmp_status, and bypass_escape).
- Carl distributed this section of the draft and reviewed in the meeting today (see figure 16-1)
- Discussion about possibly renaming this register (tmp-status-escape), open to further discussion.
- Heiko asked if ok for bypass-escape bit to ripple as the chain shifts. Carl confirmed it is properly decoded with Update-IR and stable before it is used.
- Carl will continue with TMP_STATUS instruction edits into the draft.

SEGSTART/SEGSEL/SEGMUX

- CJ raised the question as to whether or not our current SEGSEL/SEGSTART/SEGMUX design is too restricting to support the IEEE 1500 Std (Core Test Std).
- CJ presented some slides today of possible solutions to expand our current segments implementation to support 1500:
 - Currently we pair the SEGSEL or SEGSTART with a SEGMUX to exclude a single segment or not.
 - The 1500 Std uses structures that require selecting either an instruction register path, or a data register path via a 2:1 mux, and further selecting ‘1 to n’ data register paths if the data register branch is selected. (3:1 data mux in the example which CJ presented). This is a nesting scheme, with multiple paths for selection into the chain.
 - CJ presented possible coding of how we could add this into the current draft and has distributed his material to the WG.
- Ken and Bill cautioned about allowing too much nesting.
- Francisco noted the importance of the 1500 Std for cores.
- Heiko had questions about impact on the boundary register. CJ confirmed this nesting was not allowed in the boundary register so no impact there.
- Hugh liked the concept, but cautioned about keeping this simple and agreed with Bill and Ken about limiting the nesting allowed. Although this is 1500 example the constructs could apply to any logic block and test data registers so Hugh cautioned about not allowing it to be too generic.
- Ken talked of an ‘inclusion model vs. exclusion model’ and asked about how such parallel branches would respond to TRST? Which branch is selected at TRST? CJ confirmed the proper RESETVAL’s would have to be used to get the desired collapsed configuration of the chain.
- Adam asked for clarification of the current model that it either selects a chain segment, muxes around it with a zero length segment. He asked if the zero length ‘wire’ segment would still applied to this 1500 segmenting scheme.
- Roland asked if the entire 1500 block gets a SEGSEL/SEGMUX surrounding it to exclude the entire block, or if the 3:1 data mux would be expanded to include a zero length ‘wire’ path as Adam inquired.
- CJ confirmed the SEGSEL/SEGMUX external to the entire 1500 structure was likely the more desirable approach, but the wired path may be an option too.
- Bill Bruce asked if the SEGSEL would go away, and if so what happens to the ‘ready to scan’ bit?
- CJ confirmed the ‘ready to scan’ bit is important.
- Bill also asked about impact on our readiness for Ballot, since this affects a key feature of this new Std.
- Carl will look into ways of coding this into the draft, but thinks it is a 2-4 week impact overall. (1-2 weeks to edit into the draft)

Meeting adjourned: 10:05am MST

Action Items:

- Continue discussions over the reflector this week.

- Carl to look at impact of SEGSEL/SEGSTART/SEGMUX changes for the draft if the WG votes to allow the changes.

Next Friday Meeting:

- Next Friday meeting is on 29-June-12