

Date – 09/Dec/2011

Minutes of the IEEE-1149.1 Working Group Friday meeting

Attendees:

Brian Turmelle
Francisco Russi
John Braden
Josh Ferry
Carl Barnhart
Craig Stephan
CJ Clark
Ken Parker
Roland Latvala
Peter Elias
Dharma Konda
Bill Bruce
Heiko Ehrenberg

Excused:

Dave Dubberke
Adam Ley
Carol Pyron
Sankaran Menon
Jeff Halnon

Meeting called to order at 9:35 am MST

Current Draft: P1149 1 Draft 20111120.pdf

Agenda for today:

1. Carl addressed various topics from the current draft:
 - a. *_EXECUTION attributes
 - b. Redundant OO cells
 - c. Fault0/Fault1
 - d. Device_ID/Usercode
2. CJ provided an update on PDL

Minutes:

Carl began with discussion of *EXECUTION attributes, with the following key points:

* EXECUTION attributes

- References in the current draft to INIT_RUN_EXECUTION and ECID_EXECUTION will go away.

- RUNBIST_EXECUTION and INTEST_EXECUTION attributes will be deprecated.
- These *_EXECUTION attributes would be replaced with dedicated PDL procs. This keeps the BSDL structural, and the PDL for sequential operations.
- No objections from the WG today, so Carl will make a formal motion this coming Tues to adopt these changes.

OBSERVE_ONLY (ROO) Cells:

- Carl pointed out that the function of 'observe_only' and 'input' can no longer be synonymously used as the past.
- Observe_only cells are now optional redundant observe only (ROO) cells. These cells do not have to support SAMPLE.
- ROO cells can be placed on power pins, vref pins, linkage pins that do not otherwise have a digital drivers that can be stimulated from JTAG cell. The ROO cells are to encourage chip designers to think about fault detection for circuits that otherwise have been untested in the past.
- Carl explained that FC_ZERO and FC_ONE standard package cell types do not separate EXTEST and SAMPLE behavior.

FAULT0/FAULT1:

- As part of the ROO cells the ,<input spec> field is used to indicate correct or faulty cell capture values.
- Ken and Bill raised discussion on whether the FAULT0/1 or EXPECT0/1 notation should be used. Group consensus seemed to indicate that the positive EXPECT0/EXPECT1 states where more desirable, so Carl will revise the draft.
- Key point is that OBSERVE_ONLY cells can only be used for ROO instances now. Compilers should error if an OBSERVE_ONLY is used where an INPUT function is required.

IDCODE/USERCODE:

- Carl also brought up a question about whether multiple device_id's and usercodes should be allowed in the same BSDL.
- Feedback from CJ and Josh was that they are orthogonal codes and both should be allowed to have multiples in the BSDL as required.
- Carl concluded with question asking if any device id code and usercode pairing is ok?
- The CJ and Josh confirmed yes. No restrictions on this.

PDL Update:

CJ provided an update on PDL language commands. Some highlights:

- iTarget broken out to have another command: iProcTargetModule
- iScope renamed iPrefix
- iApply has added switch -together to allow tools to optimize PDL routines.
- iComment renamed iNote
- Four new commands:

- iMerge
- iTake (to allow blocking other PDL procs until operation done)
- iRelease (then release)
- iDevice (CJ's proposal to associate a PDL file with a BSDL file) Would go near top of the PDL after iPDLevel statement. WG discussed whether the PDL needs to be associated with list if device_id's or if BSDL entity names are unique across companies then the entity could be used.
- iMatchLoop added which could replace the need for iApply -LoopUntil

Meeting adjourned: 11:00am MST

Action Items:

- Carl to revise draft rules based on today's discussions.
- Carol to critique Annex D.

Next Friday Meeting:

- Next week Friday Dec 16, 2011