Meeting Minutes: C Floating-Point Study Group Teleconference

February 14, 2012
10 AM P12T / 1 PM EDT
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Draft Agenda
Meeting logistics
Note taker – Marius Cornea

Introduction of attendees – Mike Cowlishaw, Fred Tydeman, Rajan Bhakta, Marius Cornea, David Hough, Jim Thomas

Approval of agenda

Notes from 2012-12-10 meeting – posted

Action items from 2012-12-10 meeting
      AI: Jim to send email about conversion issue for Part 1
      AI: Fred and Jim to take offline Fred's Dec 4 email about ISSUE 3
      AI: Jim to specify binding to the floating-point standard in our C11 changes
      All resolved (all action items done)

Study group logistics
Next meeting –Thu March 21st

Jim: Next WG14 mailing for getting our draft out – March 26 (Jim thinks he can meet that deadline)
Jim: Next WG14 meeting – April 24-26; Jim got a note from John Benito: proposal for our Tech Specification to be an official Work Item

passed the US vote unanimously; need approval now from various national bodies; good chance this will be an official work item before the next WG14 meeting; once it is, we can organize a semi-official review of Part 1 and maybe Part 2

Review status of Part 1
-    Jim: change to copysign (done)
-    AI for Mike: send list of inconsistencies in Part 1-3 Introductions
-    Marius: do we need any reference to the level of expected accuracy for math functions? Jim: this is implementation-defined; C never specified the accuracy of math functions; our charter does not include that; CR functions will be introduced in Part 4 (math functions); there will also be a Part 5. Marius suggests revisiting this when we get to part 4.
-    Marius: some important math functions e.g. erfinv, erfcinv, cdfnorm, cdfnorminv are not in the C Standard; should we add them? Jim: we are on shaky ground if we add things not in IEEE 754-2008; Fred: there is a TR for advanced math functions for the C standard (TR 24747: Mathematical special functions); Marius: these functions do not seem to be there; suggest revisiting when we get to Part 4.

Review status of Part 2

-    Jim noted three typos that he has corrected

Begin review of Part 3

-    Part 3 – Interchange and exchange types
     • Mike noticed just some typos (will send by email to Jim)
     • Jim went over some other proposed changes that were agreed to and that will appear (with change bars) in the next draft
     • Fred: Are library guards adequately specified in proposed C11 text? Jim will investigate
     • Rajan: The last sentence of proposed 6.2.5 [10a] needs rewording. Agreed
     • Mike: The C Standard does not need to cover details of extended decimal types, as he is unaware of anyone

implementing them; Jim: we are trying to support the FP Standard as it is

- Jim will add ISSUE of whether to require extended nomenclature for all supported qualifying types
- Rajan noted that 6.2.5#11 needs change in first sentence too. Agreed
- Agreed to follow Fred's suggestion to use data-interchange type instead of interchange type
- Jim will consider adding footnote to deal with ISSUE 4 - may not be needed
- Mike points out that DPD is not the best term to use – better use the encoding terms from 754-2008 – to be continued
- Jim will draft change in Part 2 so signaling NaN macro names are consistent with Part 3
- Jim noted strfrom function inconsistencies in Parts 1 and 2 vs Part 3. To be continued

Wrap up
Topics for next meeting – at least one, related to safe snprintf (discuss when Rajan will be here)