WG14 N2287
Meeting notes

C Floating Point Study Group Teleconference

2018-07-25
8 AM PDT / 11 PM EDT / 3 PM UTC

Attendees: Rajan, Jim, Fred, Mike, David H.

New agenda items:
  NaNQ and NaNS as output from printf functions for quite and signaling nans respectively

Carry over action items:
  Ian: See if there is an incompatibility between C and C++ for constants being evaluated to a wider format (Ex. FLT_EVAL_METHOD affects constants in C++, and wider return values) - Keep open (Hubert: Not defined and left up to C)
  Jim: Update the binding table in parts 1 and 2 to handle the new IEEE-754:2018 functions when published. - Keep open.
  David: Check the min/max C specification to ensure it matches what IEEE has. - Not done.
  David: Check the augmented* C function specifications to ensure they match what IEEE has. - Not done.

Last meeting action items:
  Jim: Remove screen-share information from the agenda. - Not Done.
  Jim: Missing line numbers for part 2 (cfp2x-20180612.pdf) - Done (for all parts).
  Jim: Specification for inexact: Make the editorial change as given in the modified agenda with links. - Done.
  Fred: Fix the wording for CR21 to specify odd significand. - Done.
  Jim: C support for 754-201x: Say as per current IEEE draft and add in the N document numbers for 9.5 and 9.6 additions. - Done.
  Jim: Submit the augmented arithmetic and min/max spec for 754:201x binding proposals to WG14 after removing change marks. - Done.
  Jim: Create a CR for changing "not infinite" to "finite" as per the description for remainder (18661-1, F.10.7.2). - Done.
  Jim: Create a paper/proposal for the loosening of the totalorder* specifications to match 754-201x. - Done (email sent why to not do this).
  Fred: Recheck 'Functions and infinity' issues with 754 draft 238. - Not done (now draft 240).
  Jim: Create a CR to change CFP to say for Annex F of C that pow(+/-0,-inf) has no exception (i.e. Remove the latitude to raise div-by-zero). - Done.
  Jim: Create a CR to change the reduction operations description from should->shall. - Done (email sent why not to do this).

New action items:
  David H: Check the new specification for inexact (action item 1) to make sure the new words still work with 754.
  Rajan: Bring a proposal forward for NaNQ and NaNS printf output to this group next meeting.
  Fred: Look into reduction functions and NaN's for optional exceptions.

Next Meeting(s):
  Tuesday, August 28th 2018, 11:00 EDT, 8:00 PDT, 3PM UTC

Same teleconference number.

Discussion:
IEEE 754 revision:
  Approved draft 240. Going to sponsor ballot. Unanimous.
  Some issues still open that people may raise in the ballot.
  May need changes to formatting and templates.
  Deadline to register to be on the ballot body: At least a month away.
  May be some issues with ISO, ANSI, etc. but not sure.

C++ liaison:
  Nothing.

Action item details (http://wiki.edg.com/pub/CFP/WebHome/CFP_meeting_agenda-20180725-links.pdf):
  Specification for inexact (Jim's 6/26 email "AI about specification for inexact"):
    Suggested different change – not in cfp4x yet
    Looks good.
    David H: Check to make sure this still works with 754.
  Wording for CR21 to specify odd significand (http://wiki.edg.com/pub/CFP/WebHome/cfp1x-20180707.pdf, page 18):
    Looks good.
  C support for 754-201x. N document numbers for 9.5 and 9.6 additions (http://wiki.edg.com/pub/CFP/WebHome/n2275.pdf):
    David: No longer expect additions.
    Looks good as is. Rajan to mention no additions expected.

  Min/max C specification matches IEEE? (http://wiki.edg.com/pub/CFP/WebHome/n2273.pdf):
    Looks good.
    Keep as a proposal.

  Augmented* C function specifications match IEEE? (http://wiki.edg.com/pub/CFP/WebHome/n2274.pdf):
    Looks good.
    If asked what to do in the future, the group is OK with updating the TS's after C2X to rebase any remaining TS's to C2X and IEEE 754-2018.

  C in cfp1x http://wiki.edg.com/pub/CFP/WebHome/cfp1x-20180707.pdfpage 30 (N2272: http://wiki.edg.com/pub/CFP/WebHome/n2272.pdf):
    Looks good.

  Loosening of the totalorder* specifications in 754-201x (Jim's 6/27 email "AI about change to totalorder"):
    Looks good.

  'Functions and infinity' issues with 754 draft 238.
    Leave until next meeting.

  CR to change CFP to say for Annex F of C that pow(+/-0,-inf) has no exception (http://wiki.edg.com/pub/CFP/WebHome/n2271.pdf):
    Looks good.

  CR to change the reduction operations description from should->shall (Jim's 6/28 email "AI about reduction requirements"):
    Fred: Should we say it should not raise exceptions?
      Jim: No, since we don't say what it can't do in general. We are doing what 754 says in

terms of NaN gives NaN.
    Looks good.

  Other issues:
    Joseph Myers 7/19,20 email "Better than _Either(A, B)* (SC22WG14.15433,
SC22WG14.15435, SC22WG14.15437)
      Rajan: First message was in response to 15388.
      Fred: Another proposal 15438.
      C FP response: The group heartily endorses Joseph's position on this topic.

  NaNQ/NaNS proposal:
    Look at current 754 draft to see if NaNQ/NaNS violates it.
    Also look at the current C with TS's and see if is still valid there.
    Rajan: Bring proposal forward for NaNQ and NaNS printf output to this group next meeting

  C2X Integration:
    Mailing deadline in September.

  Activities in progress:

  Deferred issues:

- Rajan Bhakta