WG14 N2502
Meeting notes

C Floating Point Study Group Teleconference
2020-02-19
8 AM PST / 11 AM EST / 4 PM UTC

  Attendees: Rajan, Jim, Fred, David, Mike, Damian,

  New agenda items:
    None.

  Carry over action items:
    CFP: Put the tgmath redefinition as a proposal to the standard once we have a base document with TS Part 3 in it.
    Fred: Update erange proposal based on CFP 1437 and CFP teleconference discussion. - Done.
    David H: Draft words to recommend honoring properties (Ex. even/odd, periodicity) of math functions that would follow automatically from correct rounding. - Done.
      Jim: Find a place for words about math function properties. Coordinate with David H (previous AI). - Done.

  Last meeting action items:
    Jim: Look at seeing what would be involved in removing Annex J types that already have the same basic types. - In progress.
    Jim: Get a WG14 document number and submit C2x_proposal_-_why_no_wide_string_strfrom_functions- 20191230.pdf. - Done.
    Jim: Get a WG14 document number and submit C2x_proposal_-_names_and_locations-20200105.pdf. - Done.
    Jim: Ensure natural log is written as log in the standard (regarding C2x_proposal_-_powr_justification_wording-20200104.pdf). - Done (it was not).
    Jim: Ensure thin spaces are put where needed in C2x_proposal_-_powr_justification_wording-20200104.pdf. Ex. Between the e and y in the "e^y log x" in 4 places. - Done.
    Jim: Update links on the C FP wiki to point to the latest drafts of the TS parts and look into having a section for working drafts. - Done.
    Rajan: Ensure casting to _Float16 won't cause a problem with the using INFINITY wherever a constant expression can be used change we proposed. - Done.

  New action items:
    Jim: Post new teleconference number to the CFP mailing list.
    Jim: Remove 'IEEE 754 revision' from the agenda.
    Jim+David: Look into Jim's duplicated CFP messages.
    Fred: Rework CFP1437 based on CFP1488.
    Jim: Create a WG14 proposal to add in CFP1460.
    Jim: Replace N2475 with a newer example given in CFP1468.
    Jim: Change the footnote for http://wiki.edg.com/pub/CFP/WebHome/C2x_proposal_-_powr_justification_wording-20200203.pdfas per CFP1465.
    Rajan: Check with Joseph as to why http://man7.org/linux/man-pages/man3/strfromd.3.htmlseems to say you can have strfromd given non-null terminated strings.
    Rajan: Check to see if a cast on a constant expression is still a constant expression with

WG14.
   Jim: Write a note for _Float16 getting infinity as a _Float16 type in Part 3 as an annex.
   Jim: Get document numbers for updates to C to IEEE-2019, add in a link to the background
document, and submit to WG14.

   Next Meeting(s):
   Wednesday, March 18th, 2020, 11:00 EDT, 8:00 PDT, 3PM UTC
   New teleconference number. Use the current one as backup.
   Please notify the group if this time slot does not work.

   Discussion:
   C++ Liaison:
    Nothing.

   C2X integration (http://www.open-std.org/jtc1/sc22/wg14/www/docs/n2433.pdf):
   Latest C2X draft: http://www.open-std.org/jtc1/sc22/wg14/www/docs/n2454.pdfalso as link on
CFP wiki (Parts 1, 2, 4a in the draft)
   Part 3 - Investigating updates
   Part 4b
   Part 5a,b,c,d - May want to re-propose non-control flow 5d pragmas.
   IEEE 754-2019 support

   Next WG14 meeting mailing deadline: March 2nd, 2020
    Rajan will be attending, Fred via phone.

   Action item details:
   Fred: Update erange proposal based on CFP 1437 and CFP teleconference discussion.
    See Fred's CFP 1457.
    Issues finding emails due to bad CFP reflector numbering and duplicates of Jim's messages.
    Looking at CFP 1489 or 1488:
     cosh comment: Leave in magnitude and remove "positive or negative".
      Applies elsewhere as well.
     exp10m1: Agreed with the proposed changes (Jim's).
      Applies elsewhere as well.
    AI: Fred: Rework CFP1437 based on CFP1488.

   David H: Draft words to recommend honoring properties (Ex. even/odd, periodicity) of math
functions that would follow automatically from correct rounding.
    See CFP1460.

   Jim: Find a place for words about math function properties. Coordinate with David H (previous
AI).
    See David's CFP 1460.
   David: Mike, what has precedence in " or ,? I did as per engineering, vs proper English which
has it the opposite way.
     Mike: That's American, not British English.
     David: So it is fine then the way it is!
    AI: Jim: Create a WG14 proposal to add in CFP1460.

   Jim: Look at seeing what would be involved in removing Annex J types that already have the
same basic types.

   Jim: Get a WG14 document number and submit C2x_proposal_-
_why_no_wide_string_strfrom_functions-
20191230.pdf. http://wiki.edg.com/pub/CFP/WebHome/n2475.pdf
    See email thread starting with CFP 1466, subject "AI item to submit proposal about why no

wide string strfrom functions".

    Mike: May not be the best example due to the overflow possibility in 'char s[n];' with strfromd not being null terminated in some cases.

    Fred: It always gets null terminated.

    Jim: We have to go off of the C standard.

    Rajan: Other C examples (see 7.21.6.2) are of the same format (with ...).

    Mike: That is fine.

    AI: Jim: Replace N2475 with a newer example given in CFP1468.

    AI: Rajan: Check with Joseph as to why http://man7.org/linux/man-pages/man3/strfromd.3.htmlseems to say you can have strfromd given non-null terminated strings.

    Jim: Get a WG14 document number and submit C2x_proposal_-_names_and_locations-20200105.pdf.

    http://wiki.edg.com/pub/CFP/WebHome/n2476.pdf

    Jim: Ensure natural log is written as log in the standard (regarding C2x_proposal_-_powr_justification_wording-20200104.pdf).

    Jim: Ensure thin spaces are put where needed in C2x_proposal_-_powr_justification_wording-20200104.pdf. Ex. Between the e and y in the "e^y log x" in three places.

    http://wiki.edg.com/pub/CFP/WebHome/C2x_proposal_-_powr_justification_wording-20200203.pdf

    See email thread starting with CFP 1458, subject "AIs for powr paper".

    AI: Jim: Change the footnote for http://wiki.edg.com/pub/CFP/WebHome/C2x_proposal_-_powr_justification_wording-20200203.pdfas per CFP1465.

    Jim: Update links on the C FP wiki to point to the latest drafts of the TS parts and look into having a section for working drafts.

    Jim: We have no working drafts yet so no need for the new section.

    Rajan: Ensure casting to _Float16 won't cause a problem with the using INFINITY wherever a constant expression can be used change we proposed.

    See Rajan's CFP 1486.

    AI: Rajan: Check to see if a cast on a constant expression is still a constant expression with WG14.

    AI: Jim: Write a note for _Float16 getting infinity as a _Float16 type in Part 3 as an annex.

Other issues:

  Re-propose support for IEEE 754-2019.

    http://wiki.edg.com/pub/CFP/WebHome/C_support_for_754-2019-20200205.pdf

    http://wiki.edg.com/pub/CFP/WebHome/C2x_proposal_-_min-max_functions-20200205.pdf

    Jim: Want to add in the background document in the IEEE server link.

    Rajan: We can propose this during this WG14 meeting including updating F.1 (history).

    AI: Jim: Get document numbers for updates to C to IEEE-2019, add in a link to the background document, and submit to WG14.

  WG14 editor change.

    Jim and Rajan's meeting with David Keaton regarding finishing off the work.

  Paul Zimmermann asked about interest in interval arithmetic.

    Follow up with him directly if interested since out of scope for our group.