WG14 N2096
Meeting notes

C Floating Point Study Group Teleconference

2016-09-27
9 AM PDT / 12 PM EDT

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

New agenda items:
  None.

Last meeting action items:
  Jim: Check one of the files from the EDG backup for testing the off site backup. - Not done.
  Jim: Update the proposal for Part 2 to make it more similar to Part 1's proposal. - Done.
  Jim: For all proposals: Change to "This proposal incorporates" as the starting. - Done.
  Rajan: Proposal 1: Update the spreadsheet of part 1 features based on Marius' note and send
         it out to the group for final review. - Done.
  Rajan: Proposal 1: Change the prior art text that has "ex." to "Example:" since Ex. could mean
         excluding. - Done.
  Rajan: Proposal 2: Add in prior art based off the spreadsheet of features. - Done.
  Jim: Proposal 4b: Mention underflow as well (alongside the existing overflow). - Done.
  Jim: Proposal 5a: Look at leaving out the types in the second paragraph. - Done.
  Jim: Proposal 5d: Title: alternate expression handling -> alternate exception handling - Done.
  Jim: Proposal 5d: Say "portable handling of exceptional cases". - Done.
  Jim: Proposal 5d: Simplify the abstract by removing the detail after "Some actions control". -
         Done.
  Jim: Proposal 5d: Say "The pragma allows the program to deal with exceptional cases without
         having to consider implementation details." - Done.
  Jim: DDR7: Integrate the changes proposed for the usual arithmetic conversions into a
         combined document to make it easier to read/understand. - Done.
  Jim: DDR?: Create a new DDR for the typo that Joseph just raised in reflector message 14358.
         - Done. DR#8.
  Jim: Consult with Mike to discuss the preferred quantum exponent for hypot (in the TS), rsqrt,
         pow* (in the TS), etc. - Done.

New action items:
  General: Need to look through our docs to see what is in C but not in IEEE 754.
  All: Look through WG14 proposals and let Rajan and Jim know if there is anything that we
         need to bring up.
  Jim: DDR9: Update type style.
  Jim: DDR9: Update examples as per Fred's note.

Next Meeting:
  October 25th, 2016, 12:00 EDT, 9:00 PDT
  Same teleconference number.

  Next WG14 meeting (Pittsburgh, 2016/10/17) had a September 19th mailing deadline.

Discussion:
  IEEE 754 revision:
    Converging.
    Some drafting for comparisons left.
    augmentedSum, augmentedProduct names.
    Incorporated suggestions for preferred quantum exponents for transcendentals.
      Note that we had decided to do the same if 754 did it (as a DR to Part 4). Can wait until
          settled in 754.
      Fred: Rules do not allow adding new features through DR's.
        We can talk to David Keaton on how to do this after.

  C++ liaison:
    No updates.

  twoSum, twoProduct (now augmentedSum, augmentedProduct) for TS 18661 update:
    The C committee responded to the C interface that we should return a struct with two
          members.
    Wait to add until settled as discussed above.
    Jim: acospi/asinpi missing, agreed that they are missing, but declined to add them.
      All those functions are optional.
      Should 754 add them?
      David H: I would support adding them. Obvious oversight. Will add it to the IEEE 754
          agenda.
        We already have it in our TS.
      Ian: Are there other functions that should be added? Example: Is there an atanpi function?
    Jim: tanpi is not there since there are issues (sign of inf depends on direction of approach).
    Mike: Anything else in C that is not in 754?
      *General: Need to look through our docs to see what is in C but not in IEEE 754.

  What should be proposed for the C standard:
    Rajan will present the proposals.
    N2078, N2079 are the WG docs.
    *All: Look through WG14 proposals and let Rajan and Jim know if there is anything that we
          need to bring up.

  DRs review (http://wiki.edg.com/pub/CFP/WebHome/DRs2-20160910.pdf):
    DDR8: Typo that amounts to an interface change hence not editorial.

    DDR9: Fred's comment regarding italics will need to be made.
      Jim: The type style is not consistent throughout the document in general. Planning on doing
          it like the TS.
      Fred: Example needs to be updated and that needs to be added in to this DDR.
      Jim: The TR says there is a rounding on the type, and that is what the TS is based on.
        This means that existing implementations would be incorrect.

  Other:
    None.

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