

WG14 N2794

C Floating Point Study Group Teleconference

August 17, 2021

11:00 AM EDT, 8:00 AM PDT, 3:00 PM UTC

Join from PC, Mac, Linux, iOS or Android:

<https://iso.zoom.us/j/95379545408?pwd=aExBRTJwOEVBd2ZGMVp4NU04b0N1UT09>

Password: 712065

Or iPhone one-tap :

US: +12133388477,,95379545408# or +14086380968,,95379545408#

Or Telephone:

Dial(for higher quality, dial a number based on your current location):

US: +1 213 338 8477 or +1 408 638 0968 or +1 669 219 2599 or +1 669 900 6833 or +1 720 928 9299 or +1 971 247 1195 or +1 206 337 9723 or +1 253 215 8782 or +1 346 248 7799 or +1 602 753 0140 or +1 470 381 2552 or +1 646 518 9805 or +1 646 876 9923 or +1 651 372 8299 or +1 786 635 1003 or +1 267 831 0333 or +1 301 715 8592 or +1 312 626 6799 or +1 470 250 9358 or 877 853 5247 (Toll Free) or 888 788 0099 (Toll Free)

Meeting ID: 953 7954 5408

Password: 712065

International numbers available: <https://iso.zoom.us/j/95379545408>

Or Skype for Business (Lync):

<https://iso.zoom.us/skype/95379545408>

CFP Wiki: <http://wiki.edg.com/twiki/bin/login/CFP/WebHome>

Draft Agenda

Meeting logistics

Note taker, mail out notes

Introduction of attendees

Approval of agenda

Notes from 2021-07-21 meeting

Posted on CFP wiki

Study group logistics

Next meeting dates: Wednesday, September 22?

C++ liaison

CFP C23 changes summary page for the C++ liaison study group
Covered below

C23 integration

Latest C2X drafts:

<http://www.open-std.org/jtc1/sc22/wg14/www/docs/n2596.pdf>

<http://www.open-std.org/jtc1/sc22/wg14/www/docs/n2573.pdf>

<http://www.open-std.org/jtc1/sc22/wg14/www/docs/n2478.pdf>

Part 1

Part 2

Part 3

Part 4ab

Part 5abcd

IEC 60559:2020 support

Carry-over action items

Fred: WG14 N2714 Add "a" before "NaN" in last bullet.

[N2714](#) 2021/05/09 Tydeman, hypot()

Jim: [CFP 1997]: Range error definitions of overflow and underflow.

Overflow: "ordinary accuracy" not defined, but OK.

Underflow: exact minimum normal is underflow. Seems wrong. But no better wording.

AI: Jim Submit to WG14.

- [\[Cfp-interest 2006\] Re: Als related to range errors clarifications](#) *Fred J. Tydeman*
 - [\[Cfp-interest 2007\] Re: Als related to range errors clarifications](#) *Jim Thomas*
 - [\[Cfp-interest 2008\] Re: Als related to range errors clarifications](#) *Fred J. Tydeman*
 - [\[Cfp-interest 2009\] Re: Als related to range errors clarifications](#) *David Chen*
 - [\[Cfp-interest 2011\] Re: Als related to range errors clarifications](#) *Jim Thomas*
 - [\[Cfp-interest 2010\] Re: Als related to range errors clarifications](#) *Jim Thomas*
 - [\[Cfp-interest 2012\] Re: Als related to range errors clarifications](#) *David Hough CFP*
 - [\[Cfp-interest 2013\] Re: Als related to range errors clarifications](#) *Jim Thomas*

[N2746](#) 2021/05/30 Thomas, C23 proposal - overflow and underflow definitions

- [\[Cfp-interest 2038\] Underflow](#) *Fred J. Tydeman*
- [\[Cfp-interest 2044\] Re: Underflow](#) *Jim Thomas*
 - [\[Cfp-interest 2045\] Re: Underflow](#) *Fred J. Tydeman*
 - [\[Cfp-interest 2047\] Re: Underflow](#) *Jim Thomas*
 - [\[Cfp-interest 2048\] Re: Underflow](#) *Fred J. Tydeman*
 - [\[Cfp-interest 2063\] Re: Underflow](#) *Jim Thomas*
 - [\[Cfp-interest 2064\] Re: Underflow](#) *Steve (Numerics) Canon*
 - [\[Cfp-interest 2065\] Re: Underflow](#) *David Hough CFP*
 - [\[Cfp-interest 2066\] Re: Underflow](#) *Jim Thomas*
 - [\[Cfp-interest 2069\] Re: Underflow](#) *Fred J. Tydeman*
 - [\[Cfp-interest 2076\] Re: Underflow](#) *Fred J. Tydeman*
 - [\[Cfp-interest 2078\] Re: Underflow](#) *Vincent Lefevre*
 - [\[Cfp-interest 2079\] Re: Underflow](#) *Fred J. Tydeman*
 - [\[Cfp-interest 2081\] Re: Underflow](#) *Vincent Lefevre*
 - [\[Cfp-interest 2080\] Re: Underflow](#) *Fred J. Tydeman*
 - [\[Cfp-interest 2082\] Re: Underflow](#) *Vincent Lefevre*
 - [\[Cfp-interest 2077\] Underflow and overflow](#) *Vincent Lefevre*
 - [\[Cfp-interest 2068\] Re: Underflow](#) *David Hough CFP*

Action items from 2021-07-21 meeting

All: Review CFP 2060.

- [\[Cfp-interest 2060\] Updated C FP to CPP liaison group summary paper draft](#) *Rajan Bhakta*

Fred: Submit CFP 2062 to WG14.

[\[Cfp-interest 2062\]](#) *Fred J. Tydeman*

Fred: Write up a proposal to remove the *_HAS_SUBNORM macros.

All: Look into the email history to find out why we chose to make float and _Float32 separate and distinct types.

SC22WG14.19485, 19487, 19488, 19491, 19492

- [\[Cfp-interest 2074\] AI about history of float and _Float32 being separate and distinct types.](#) *Jim Thomas*
 - [\[Cfp-interest 2075\] Re: AI about history of float and _Float32 being separate and distinct types.](#) *David Olsen*

Rajan: See what we can propose for freestanding and IEEE 754 and send it to the CFP mailing list.
SC22WG14.19444, 19445

- [\[Cfp-interest 2085\] Freestanding with FP binding](#) *Rajan Bhakta*

Jim: Add Detect tininess before and after rounding to next meeting's agenda.

Other issues

Typo in 5.2.4.2.2

- [\[Cfp-interest 2083\] typo in C2x 5.2.4.2.2 Characteristics of floating types <float.h>](#) *Vincent Lefevre*

Number classification and normal numbers

- [\[Cfp-interest 2084\] number classification macros, fpclassify and normal numbers](#) *Vincent Lefevre*

Others?