N3113: Minutes of the virtual WG14 meeting – 13th to 17th February 2023

Local contact information
David Keaton <dmk@dmk.com>

1. Opening Activities

1.1 Opening Comments (Keaton)
1.2 Introduction of Participants/Roll Call

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<td>IBM</td>
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<td>INCITS/C Chair</td>
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<td>Robert Seacord</td>
<td>Woven Planet North America Inc</td>
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<td>University of Goettingen</td>
<td>Germany</td>
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<td>Roberto Bagnara</td>
<td>BUGSENG</td>
<td>Italy</td>
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1.3 Procedures for this Meeting (Keaton)
1.4 Required Reading
   1.4.1 ISO Code of Conduct
   1.4.2 IEC Code of Conduct
   1.4.3 JTC 1 Summary of Key Points [N 2613]
   1.4.4 INCITS Code of Conduct

1.5 Approval of Previous Minutes
   1.5.1 Approval of Previous WG 14 Minutes [NXXX] (WG 14 motion)
       Minutes not available due to short time between meetings. Will approve at next meeting.
1.5.2 Approval of Previous INCITS/C Minutes [pl22.11-2022-XXXX] (INCITS/C motion)
Minutes not available due to short time between meetings. Will approve at next meeting.

1.6 Review of Action Items and Resolutions

1.7 Approval of Agenda [N3093] (INCITS/C motion, WG 14 motion)
Gilding moved, Bhakta seconded. Agenda unanimously approved.

1.8 Identify National Bodies Sending Experts:
- Austria
- Canada
- France
- Italy
- Poland
- Sweden
- The Netherlands
- UK
- US

1.9 INCITS Antitrust Guidelines and Patent Policy

1.10 INCITS official designated member/alternate information

1.11 INCITS Social Media Accounts

- Links to follow INCITS social media accounts (LinkedIn, Twitter, Facebook):
  - Click on the icons at the top of this agenda for links to the INCITS page on each corresponding social media platform AND/OR
  - Scan this QR code with your Smart Phone, which will take you to a landing page with links to the INCITS page on all 3 social media platforms.

1.12 Note where we are in the current C23 Schedule
We are in the second and final of ballot resolution for CD1 9899. As soon as possible afterward, there will be a CD2, followed by a DIS.

2. Reports on Liaison Activities

- No reports received this meeting.

2.1 ISO, IEC, JTC 1, SC 22
- Unicode consortium now members of SC22, so can attend future WG14 meeting
- ISO requires balloting for paragraph numbers for all documents

2.2 INCITS C/WG 14
2.3 INCITS C++/WG 21
WG21 requests feedback on
https://www.open-std.org/jtc1/sc22/wg21/docs/papers/2023/p2723r1.html

2.4 INCITS OTHER LANGUAGES
2.5 WG 23
2.6 MISRA C
2.7 Austin Group
2.8 Other Liaison Activities

3. Reports from Study Groups

No reports expected for this meeting.
A TS 6010 CD ballot is expected to be in progress at the time of the meeting.

3.1 C Floating Point Study Group
3.2 C Memory Object Model Study Group
3.3 C and C++ Compatibility Study Group
3.4 Undefined Behavior Study Group

4. Future Meetings

4.1 Future Meeting Schedule

Please note that in-person meetings may be converted to virtual meetings due to coronavirus considerations.

- Sometime in the week 17th-21st April – length depends on the number of comments received
- October, 2023 (proposed, depending on DIS schedule) – DIS Ballot resolution meeting

4.2 Future Mailing Deadlines
Note: Please request document numbers by one week before these dates.

- Post-Virtual-202301/202302, Pre-Virtual-202304 – 17 March, 2023
- Post-Virtual-202304 – 12 May, 2023

5. Document Review -WG14 Business

The purpose of this meeting is to finish CD1 9899 ballot resolution.
Progress from the previous meeting is recorded in [N 3091]

Late addendum to ballot comments (unofficial standing) [N 3073], status [N 3092]

- CA-N3073-002 - no objections – accepted
- CA-N3073-003 - already accepted, as GB-016
- CA-N3073-004 - no objections – accepted
• CA-N3073-005 - already accepted with comments, as US:89-266

Other documents to which we may refer as needed:
Myers, Declaration contexts (C2x CD UK comment) [N 3070]
Myers, Conversions in constexpr initializers (C2x CD UK comment) [N 3071]
Gustedt, NB comments by AFNOR for ballot on ISO/IEC 9899:2023 [N 3072]
Gustedt, handle NB comments concerning constexpr [N 3078]
Unofficial spreadsheet version of CD1 9899 ballot comments [N 3086]

Plan:
For simplicity, proceed sequentially through N 3067 followed by N 3073 (but referring to N 3073 earlier if needed for N3067).

Upon reaching each editorial comment, the committee will be asked if there are any objections to adding it to a list to be mass-approved at the end. If there are objections, those editorial comments will be recorded with the outcome of the discussion of technical comments, below:

Resume processing at FR-131, where we left off at the previous meeting.

• GB-078 – ‘Does the committee agree to accept the changes proposed in N3103 as a resolution of GB-078’ with the additional modification “Change “implementation-defined behavior related to the char type” to ‘implementation-defined behavior related to the char type of the elements of the string literal "\xFF"’ Y-14 N-0 A-0 accepted as amended
• GB-089 – addressed in N3098 ‘Does the committee agree to accept N3098 as the resolution of GB-089’ Y-15 N-0 A-1 accepted
• US:30-115 – N3102 ‘Does the committee agree to accept the changes proposed in N3102 as a resolution of US:30-115 with “variable” replaced by “object”’ Y-14 N-0 A-1 accepted
• Fr-131 – N3072#5 ‘Does the committee agree to accept the change proposed in Fr-131’ Y-0 N-13 A-1 rejected
• GB-133 – Decision poll to accept GB-133 ‘Does the committee agree to accept the change proposed in GB-133’ Y-11 N-0 A-1 accepted
• US:37-142 – Decision poll to accept GB-133 ‘Does the committee agree to accept the change proposed in US:37-142 to render the indicated text in non-italics’ Y-12 N-0 A-3 accepted
• CA:5-148 – Proposed disposition: Add a space before “NOTE” and change “do not agree” to “does not agree”. ‘Does the committee agree to accept the proposed disposition of CA:5-148’ Y-12 N-0 A-3 accepted
• Fr-158, Fr-217 & Fr-249 - N3072#15 addresses these three comments ‘Does the committee want something along the lines of N3072#15’ Y-5 N-2 A-8 accepted
‘Does the committee agree to accept N3072#15 with <inttype.h> replaced by <inttypes.h> as the resolution of Fr-158, Fr-217 and Fr-249’ Y-10 N-1 A-4 accepted
• Fr-159 - N3072#14 ‘Does the committee agree to accept the change proposed in Fr-159 as modified in N3072#14’ Y-14 N-0 A-0 accepted
• US41:-167 - Proposed disposition: delete 7.12.7.4 para 3. ‘Does the committee agree to deletion of 7.12.7.4 para 3’ Y-12 N-0 A-1 accepted
• US:42-169 – proposed changes in n3105.pdf from CFP group. ‘Does the committee agree to accept the change proposed in US:42-169 as modified by N3105’ Y-12 N-0 A-2 accepted
• GB-232 – ‘Does the committee agree to accept the changes proposed in N3107 to resolve GB-232’ Y-16 N-0 A-0 accepted
• GB-286 – proposed changes in n3105.pdf from CFP group. ‘Does the committee agree to accept the change proposed in GB-286 as modified by N3105’ Y-13 N-0 A-2 accepted
• GB-287 – proposed changes in n3105.pdf from CFP group. ‘Does the committee agree to accept the change proposed in GB-287 as modified by N3105’ Y-14 N-0 A-0 accepted
• US:45-174 - ‘Does the committee agree to accept the change proposed in GB-175 as a solution US:45-174’ Y-17 N-0 A-0 accepted
• GB-175 - Decision poll to accept GB-175 ‘Does the committee agree to accept the change proposed in GB-175’ Y-14 N-0 A-2 accepted
• GB-188 - ‘Does the committee agree to accept the change proposed in GB-188 to remove the version macro’ Y-6 N-6 A-5 no consensus to make a change
• GB-191 – see N3078#5 ‘Does the committee agree to accept GB-191’ Y-13 N-1 A-3 accepted
• Fr-192 & NL:6-193 - see N3072#17 ‘Does the committee agree to accept N3072#17 as the resolution of GB-192 and NL:6-193 – using the ‘alternative suggestion’ from France as the normative text and the Netherland’s text as the recommended practice’ Y-15 N-0 A-3 accepted
• NEN/NL:6-193 – see Fr-192
• GB-195 - ‘Does the committee agree to resolve GB-195 by adding "Conversions to atomic_bool behave the same as conversions to bool." after the first sentence of 7.17.6#1? ’ Y-11 N-0 A-3 accepted
• GB-196 – ‘Does the committee agree to accept the change proposed in GB-196’ Y-2 N-5 A-8 rejected A paper requested to address this issue for C2Y - Meneide suggested this already exists as N2389
• GB-197 – ‘Does the committee agree to accept the changes proposed in GB-197’ Y-7 N-0 A-3 accepted Note one of the changes depends on GB-195
• GB-198 – ‘Does the committee agree with resolving GB-198 by removing note 1’ Y-8 N-0 A-3 accepted
• NEN/NL:7-200 – ‘Does the committee agree to accept the changes proposed in NEN/NL:7-200’ Y-11 N-0 A-3 accepted
• NEN/NL:3-201 – ‘Does the committee agree to accept the changes proposed in NEN/NL:3-201’ Y-0 N-5 A-7 rejected
• NEN/NL:2-202 – N3104 ‘Does WG14 accept NEN/NL-202, with wording from N3104, with "32" changed to "24" in the footnotes, "3" removed in "N.3" and "unsigned _BitInt(sizeof(value) * CHAR_BIT)" changed to "unsigned _BitInt(N)" in both places’? Y-5 N-4 A-4 rejected with comments, to be brough C2Y
• US:58-203 – ‘Does the committee agree to accept the changes proposed in US:58-203’ Y-5 N-2 A-3 accepted
• NEN/NL:4-204 – ‘Does the committee agree to accept the changes proposed in NEN/NL:4-204’ Y-10 N-0 A-3 accepted
• GB-210 – ‘Does the committee agree to accept the change proposed in GB-210’ Y-4 N-4 A-5 no consensus - David Banham asked to bring this suggestion up for C2Y
• Fr-217 – see Fr-158
• GB-218 - ‘Does the committee agree to accept the change proposed in GB-218’ Y-3 N-7 A-4 rejected
• GB-224 - ‘Does the committee agree to accept the first change proposed in GB-224’
Y-11 N-0 A-2 accepted  editorial issue – needs adding to Annex J
• GB-227 - ‘Does the committee agree to accept the change proposed in GB-227, with "five types and several functions" changed to "several types and functions"’ Y-12 N-0 A-0 accepted
• Fr-228 – N3072#16 ‘Does the committee agree to accept the changes proposed in N3072#16 as a resolution to Fr-228’ rejected (without vote – withdrawn by proposer)
• GB-235 - ‘Does the committee agree to add a footnote in 7.24.3.1 paragraph 2 after “whose alignment is specified by alignment,”, “The alignment requirements from 7.24.3 also apply even if the requested alignment is less strict.” to resolve GB-235?’ Y-13 N-0 A-2 accepted
• FR-241 & GB-242: N3072#9 ‘Does the committee agree to accept the changes proposed in N3072#9 to resolve Fr-241 & GB-242?’ Y-14 N-0 A-1 accepted
• GB-242 – see Fr-241
• GB-248 - ‘Does the committee agree to accept the change proposed in GB-248 – with font choice left to the editor’ Y-14 N-0 A-0 accepted
• Fr-249 – see Fr-158
• US:1-254 – ‘Does the committee agree to resolve US:1-254 by changing page vi bullet "Missing macros were added to from <float.h> and <limits.h>" to "Missing macros were added to <float.h> and <limits.h>’ Y-12 N-0 A-0 accepted
• GB-265 - ‘Does the committee agree to accept the change proposed in GB-265 – with the choice left to the editor’ Y-12 N-0 A-0 accepted
• US:89-266 – ‘Does the committee agree for the editor to change the footer to “index” on page 672 and later to resolve US:89-266’ Y-12 N-0 A-0 accepted with comments
• See GB-271 (in previous minutes)
• US:82-295 - ‘Does the committee agree that the change proposed in US:82-295 is not required’ Y-10 N-0 A-2 accepted
• US:73-304 - ‘Does the committee agree to the changes proposed in US:73-304’ Y-13 N-0 A-1 accepted
• US:86-318 - ‘Does the committee agree to the changes proposed in US:86-318’ Y-0 N-12 A-1 rejected
• NEN/NL:9-333 - ‘Does the committee agree to the changes proposed in NEN/NL:9-333 incorporating N3095 instead on N3031’ Y-1 N-7 A-6 rejected
• Fr-334 - ‘Does the committee agree to the changes proposed in Fr-334 with the comment “Font representations will be made consistent; details to be found in other accepted comments”’ Y-12 N-1 A-1 accepted with comment
• Fr-335 - ‘Does the committee want to accept Fr-335 with comment by changing the value returned by __has_c_attribute to 202311L for all attributes?’ Y-10 N-6 A-0 accepted as noted
• Fr-336 - ‘Does the committee want to accept N3072#12 as a resolution of Fr-336, i.e. keep the colour as used in N3054 in the final draft’ Y-6 N-5 A-5 no consensus rejected, to be considered again for C2Y

As a follow-on to the Fr-335 decision poll, there was a discussion on how to avoid the same issue in the future, this led to the following opinion poll ‘If an attribute does not change between two versions of the standard should the __has_c_attribute return number change’ Y-1 N-14 A-2 Clear sentiment for not changing the __has_c_attribute returned value if the attribute hasn’t changed.
The following items were considered for mass approval and no objections were raised

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Decision poll ‘Does the committee agree to accept all the proposals listed above’
Y-16 N-0 A-0 all accepted

Seacord presented a paper N3106 as a proposed solution to GB-012 (rejected at the last meeting). To be considered before CD2.

6. Clarification Requests - WG14 Business
The previous queue of clarification requests has been processed.

7. Any Other Business
No other business raised.

8. Resolutions and Decisions reached - WG14 Business

8.1 Review of Decisions Reached
- All decision recorded in N3108

8.2 Review of Action Items
- JTC/1 accessibility group to be invited to a future WG14 meeting to discuss use of color

9. PL22.11 Business (INCITS/C Minutes Only)

10. Thanks to Host
10.1 Thanks to ISO for supplying Zoom capabilities

11. Adjournment (INCITS/C motion)
11.1 Ballman proposed, Seacord seconded – no objection