



InterNational Committee for Information Technology Standards (INCITS)

Secretariat: Information Technology Industry Council (ITI)

1101 K Street NW, Suite 610, Washington, DC 20005

www.INCITS.org



WG14 N2099

INCITS PL22.11-2016-0002

Date: 2016-04-14

Reply To The Attention Of: Barry Hedquist

PL22.11 Secretary

Email: beh@peren.com

MINUTES

11-14 April, 2016

MEETING OF ISO/IEC JTC 1 SC 22/WG 14 AND INCITS PL22.11

Dates and Times

11 April 2016 09:00 – 12:00 Lunch 13:30 – 16:30

12 April 2016 09:00 – 12:00 Lunch 13:30 – 16:00

13 April 2016 09:00 – 12:00 Lunch 13:30 – 16:30

14 April 2016 09:00 – 12:00 Lunch 13:30 – 16:30

15–16 April, 2016: WG 23 meeting scheduled, including discussion of C language security/safety (see WG 23 agenda)

Meeting Location

*BSI Group
Chiswick Tower
389 Chiswick High Road
London, W4 A4L, UK
Phone: +44 345 080 9000*

Meeting information

Venue information: [N 1983](#)

Request for invitation letter to assist with UK visa: [N 1984](#)

Local contact information

Clive Pygott (clivepygott@gmail.com)

Teleconference information

Topic: ISO/IEC JTC 1/SC 22/WG 14

Date: Every day, from Monday, April 11, 2016, to Thursday, April 14, 2016

Time: 9:00 am, GMT Summer Time (London, GMT+01:00)

Meeting Number: **(Please contact the Convener for the meeting number.)**

Meeting Password: **(Please contact the Convener for the password.)**

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1. Opening Activities

1.1 Opening Comments (Keaton, Pygott)

Clive Pygott welcomed us to scenic Chiswick, England. There is coffee, tea, and water. Facilities are outside the room, in this building. Lunch will be at 12:00. There are NO scheduled fire drills.

1.2 Introduction of Participants/Roll Call

<u>Name</u>	<u>Organization</u>	<u>NB</u>	<u>Comments</u>
Jens Gustedt	CERT/SEI/CMU	USA	
David Keaton	CERT/SEI/CMU	USA	WG14 Convener
Daniel Plakosh	CERT/SEI/CMU	USA	ISO eCommittee Secretary
Lars Bjonnes	Cisco	USA	
Thomas Koepp	Deep Mind	UK WG21 Liaison	
Andrew Banks	Frazer-Nash	UK	MISRA C Liaison
Blaine Garst	Garst	USA	
Philipp Krouse	Goethe University	Germany	
Rajan Bhakta	IBM	Canada	
John Parks	Intel	USA	PL22.11 Chair
Clark Nelson	Intel	USA	
Derek Jones	Knowledgeware	UK	
Clive Pygott	LDRA	USA	
Robert Secord	NCC Group	USA	
Douglas Walls	Oracle	USA	
Barry Hedquist	Perennial	USA	PL22.11 Secretary
Tom Plum	Plum Hall	USA	dialed in
Jonathan Wakely	Red Hat	USA	
Larry Jones	Siemens PLM Software	USA	Project Editor dialed in
Fred Tydeman	Tydeman	USA	PL22.11 Vice Chair
Peter Sewell	University of Cambridge	UK	
Kayvan Memarian	University of Cambridge	UK	
Sergei Nikolaev			dialed in
Boris Fomitchev			dialed in
Stephen Michell	WG23 Convener	CAN	
Willem Wakker	ACE	Netherlands	
Erhard Ploedereder	University of Stuttgart	Germany	

1.3 Procedures for this Meeting (Keaton)

The Meeting Chair and WG14 Convener, David Keaton, announced that procedures would be as per normal. Everyone was encouraged to participate in the discussion and straw polls.

Straw polls are an informal WG14 mechanism used to determine if there is consensus to pursue a particular technical approach or possibly drop a matter for lack of consensus. Straw polls are not formal votes, and do not in any way represent any National Body position. National Body positions are established in accordance with the procedures established by each National Body.

INCITS PL22.11 members reviewed the INCITS Anti-Trust and Patent Policy Guidelines at:

<http://www.incits.org/standards-information/legal-info>

All 'N' document numbers in these minutes refer to JTC1 SC22/WG14 documents unless otherwise noted.

The primary emphasis of this meeting was to review the progress of our subgroups and work on Defect Reports.

David Keaton is the meeting Chair.
Barry Hedquist is the Recording Secretary.

1.4 Approval of Previous Minutes [N1978]

Several typos and minor edits were reported and corrected.

The minutes were approved by unanimous consent with those changes.
(Hedquist/Tydeman)

Final Minutes from Kona will be N1978
Draft Minutes from Chiswick will be N2036
Final Minutes from Chiswick will be N2099

1.5 Review of Action Items and Resolutions (Hedquist)

ACTION: ALL Review & Comment WG21 N4220, Preprocessor Undefined Behavior paper.

DONE - WG21 preprocessor papers coming to WG14

ACTION: Barry & David to send email to Daniel on dates for this meeting. October 2016.
DONE

ACTION: Convener to add the material regarding Annex K, including 6.3.3, to SD-3.
DONE - N2020

ACTION: Convener to send the Technical Corrigenda for DR1, TS 17961 to ISO, with a recommendation to re-publishing the TS 17961, following editorial review (Clive, Blaine, David).
DONE - N2010, N2011

ACTION: Blaine to come up with a Proposed Committee Response for DR 478.
DONE

ACTION: Blaine to look at adding DR 479 to DR 469.
DONE

ACTION: Blaine to reconcile the relevant sections of DR 427 to develop a Proposed Committee Response.
DONE

ACTION: Blaine to write a proposed TC for DR 439, incorporating Point C directly, and Point E as a non-normative note.
DONE

ACTION: Clark to roll Point D, DR 439, out into a separate DR.
Done - N2027

ACTION: Clark to write a Proposed TC for DR 444.
DONE

ACTION: Blaine to adopt the Committee Discussion as a Proposed TC for DR 453.
DONE

ACTION: Blaine to fix the typo in DR 452.
DONE

ACTION: Blaine to add Fred's words to Committee Discussion for DR 473. Keep the Proposed TC unchanged.
DONE

ACTION: Jens to write a Proposed TC for DR 481.
DONE

ACTION: Blaine to write a Proposed Committee Response for DR 482.
DONE

ACTION: Convener to add DR 482 to SD-3
DONE - N2020

ACTION: Blaine to write a Proposed Committee Response for DR 483.
DONE

ACTION: Blaine to write a Proposed Committee Response to DR 484.
DONE

ACTION: Blaine to write up words for Jens for DR 485.
OPEN

ACTION: Convener to check on access to relevant vocabulary standard.
DONE - Access is free and there is now a link at the bottom of the WG14 home page.

ACTION: Jens to develop new material based on DR 486 and write new papers that are SD-3 material, and DR material, as needed.
OPEN

ACTION: Blaine to write a Proposed Committee Response for DR 486.
DONE

ACTION: Convener to get C Standard sources to Blaine, and Jens
DONE

1.6 Approval of Agenda, N2022

Revisions to the Revised Agenda are posted and reflected here.

Added Items: None

Deleted Items: None

Agenda approved by unanimous consent. (Tydeman/Hedquist)

1.7 Identify National Bodies Sending Experts

US, Canada, Netherlands, UK

2. Reports on Liaison Activities

2.1 SC 22 (Keaton)

INCITS/EB sent out a call for those interested in serving on a Steering Committee for JTC1/SC22. That Call has closed with no response on March 8, 2016. At the April 2016 EB meeting a decision will be made open how to proceed beyond the current year. A one-year notice is required to relinquish the Secretariat.

2.2 PL22.11/WG 14 (Parks / Keaton)

PL22.11 – Ballot for TAG meeting.

WG14 – SD-3 N2020

2.3 PL22.16/WG 21 (Hedquist)

There are a number of items being forwarded via the WG 14 Liaison from WG 21.

N2034 - Comma omission and comma deletion (Koppe).

N2016 - Adding Fundamental Type for Short Float

C++ will have a normative reference to C11 in C++17. The 'optional' items for the C 2011 Library may be removed.

2.4 PL22 (Hedquist)

INCITS sent out a Call for Chair for PL22 which closed on March 17 (second call). The issue is now in the INCITS/EB hands. There is a volunteer. Paperwork will be submitted to EB.

2.5 WG 23 (Pygott)

There is a new version of the C language specific area. New vulnerabilities for concurrency.

2.6 MISRA C (Banks)

The company that supports MISRA has been taken over by a for-profit organization. No change to basic MISRA philosophy moving forward. Working on C11 and TS 17961, Secure C. May recommend adoption of Annex K.

2.7 Other Liaison Activities - None

3. Reports from Study Groups

3.1 C Floating Point activity report (TS 18661) (Rajan)

Creating DRs for Parts 1-4. IEEE 754 has acknowledged the work of WG14, giving thanks and appreciation for the work of the C Floating Point (CFP) group.

The CFP group is approaching its last milestone in developing a C language binding for IEEE 754-2008: the first four parts of ISO/IEC TS 18661 already have been published and the fifth and final part has been drafted in preparation for ballot.

As chair of the 754 revision activity, I'd like to take this occasion, to express my appreciation for CFP's labors over the years, which necessarily involved discovering omissions and inconsistencies in the 754-2008 standard as they developed proposed C bindings for it. The 754 revision activity is intended to address just such omissions and inconsistencies, but in a language-independent context. We have found the CFP experience invaluable for identifying problems and solutions that we can use as a basis for our 754 work. Subexceptions and the pow functions are just the most recent examples that come to mind. The years of CFP effort have significantly expedited the 754 work.

-- David Hough, Chair IEEE 754 Revision

3.2 CPLEX activity report (Nelson)

N2017 in pre-meeting mailing with new material. Title has been changed. CPLEX will hand over a document. Clark expects feedback from WG14 on what parts will look like.

4. Teleconference Meeting Reports

4.1 Report on any teleconference meetings held.

None

5. Future Meetings

5.1 Future Meeting Schedule

- Fall 2016 – Pittsburgh, PA, USA, CERT, Oct 17-21, 2016.
- Spring 2017 – Markham, ON, Canada IBM, Apr 3-7, 2017.

5.2 Future Mailings

- Post London: 09 May 2016
- Pre Pittsburgh: 19 Sept 2016
- Post Pittsburgh: 14 Nov 2016

6. Document Review

6.1 Determine whether to categorize these documents as Defect Reports (DR).

6.1.1 N1987 - timespec versus tm

There is no question that these are contained in the normative text. The reference is wrong.
DR 487

6.1.2 N1991 - c16rtomb() on wide characters encoded as multiple char16_t

DR 488

6.1.3 N1994 - Integer Constant Expression

DR 489

6.1.4 N1995 - Unwritten Assumptions about if-then

DR 490

6.1.5 N1996 - Constraints on defined

Moved to 6.3.8.

6.1.6 N1997 - Missing syntax

Moved to 6.3.9.

6.1.7 N2000 - Concern with Keywords that Match Reserved Identifiers

DR 491

6.1.8 N2006 - TS 17961 Potential DR and Change for C2X: Additions to 5.4

First part is a DR 2 for the TS, second part is for C2X (6.3.10).

Rule 5.40 names a number of functions that can attempt to write beyond the bounds of the target array, if supplied with tainted input, namely: fscanf, scanf, vfscanf, vscanf, sscanf, vsscanf and sprint.

The observation is that vsprintf should be included in this list. Also the _s versions of all the above (including vsprintf_s) should be included, as they also can write beyond the end of the target array.

It is suggested that this is a defect rather than an enhancement, as from the rationale for the rule, they should have been included when drafted.

Part 2 – Moved to 6.3.10

6.1.9 N2007 - Potential DR and Change for C2X: Named Child struct-union with no member DR 492 (Part 1 only)

Move Part 2 to 6.3.11

6.2 Documents scheduled for a specific time.

6.2.1 N2004, N2005 - TS 18661-5 Update & Slide Deck (Monday afternoon)

Rajan presented. Part 5 is Supplementary attributes, and incorporates input from the October 2015 meeting, and from Joseph Myers.

ACTION: Convener to forward PDTS 18661-5 to SC22 for DTS Ballot.

6.2.2 N2016 Adding Fundamental Type for short float (Monday afternoon)

Boris Fomitchev presented via call in. The goal is to add a new fundamental type, short float: a floating-point type of unspecified length, shorter or equal to float. The goal is to provide language option to represent platform-specific floating-point values shorter than float. Short floats are in use by a number of implementations, including OpenGL, Arm, and TI.

Numerous comments from attendees, many in favor, some not. The paper is well underspecified for use of a specified type. Rajan pointed out that using Part 3 of the TS 18661 may work. Blaine pointed out that their intent may be the use of short float is not per IEEE.

Straw Poll: Should WG14 continue along the lines of N2016.
Y-18, N-1, A-5. Clear consensus to move forward.

ACTION: Boris Fomitchev and Sergei Nikolaev to develop the next iteration of N2016.

WG21 Liaison Statement

WG14 is sympathetic to the direction of N2016, and has solicited an additional paper providing more details. WG14 prefers the term 'short float'.

6.2.3 N2012, Clarifying the C Memory Model (Tuesday morning)

N2013, C Memory Object and Value Semantics

N2014, What is C in practice? (Cerberus survey v2): Analysis and Response.

N2015, What is C in practice? (Cerberus survey v2): Analysis of Responses - w/ Comments

A presentation in slide format covering the content of N2012. The above papers provide summarization of a study undertaken to identify and provide recommendations on confusing issues within the C Standard and recommendations for clarification. For example, the study points out that undefined behavior creates a large amount of confusion w.r.t. what to expect as behavior from a given compiler. Blaine believes that the "Trust the Programmer" model has been eroded. A real bottom line is to minimize the use of 'undefined behavior' within the Standard. Similar, although not to the same degree, for 'unspecified behavior'.

The study addresses many other areas of potential improvement of the C Standard, and bears looking at in detail.

6.2.4 TR 24772-3, Guidance to avoiding vulnerabilities in programming languages, Part 3, C (Last item Thursday) N2018 (supersedes N1980)

Clive presented N2018, and would like us to sign off on its content so it can be published by WG23. Stephen Michell pointed out that not all the vulnerabilities are in the document. This is a Technical Report, not even a Technical Specification.

There seems to be a lack of support for this document. Suggestions for changes can be submitted to WG14 (Clive).

WG14 Liaison Statement to WG23

WG14 does not want to own this document, but encourages members to submit suggestions for changes to Clive Pygott.

6.3 Other Documents

6.3.1 N1989 - C language extension (multilevel break)

This paper is a submission for a new feature for C2X. It proposes a multilevel break, as in 'break n' where 'n' indicates the number of break loops. The Committee does not seem to be in favor of this proposal. No objection to not pursuing.

6.3.2 N1990 - Array Types and Bounds Checking

The material here would break existing code. We could make it easier for static analysis tools to do size checking, but in general there is no sentiment to move forward.

ACTION – David to add to the C2X charter a guideline for future APIs, size should be specified prior to an array.

6.3.3 N2008 - Proposed enhancement for C2X, enum representation type

The paper proposes syntax for enums that are being used for C++, so why not use those? There can be subtle differences between C++ and this paper. We should move the common subset of that used in C++ into C. Should we do that? Yes. There are some questions we would need to resolve.

The second proposal is to remove the implicit cast from integral types to (new style) enums. The C++ model differs from C and the intent of the second proposal is to follow C++.

ACTION: Convener to add N2008 to SD3.

6.3.4 N2009 - First pass at a LaTeX conversion of the Standard.

See 8.1.3.1, N2024

6.3.5 N2017 - Extensions for parallel programming, Pt 1: Thread-based parallelism

N2017 matches the Working Draft of the CPLEX study group adopted 2016-03-07. Only the document identification and title page have been changed. What do we want to do with this paper? We could forward it to SC22 and obtain a NWI. We could wait to see what happens with 'Closures' or OpenMP or any other library or language approach. We could keep working on it. The 'features' contained here are almost out of Silk and OpenMP.

ACTION: Convener to prepare a draft New Work Item Proposal by the SC22 Plenary in September 2016.

6.3.6 N2021 - Preliminary C2x charter

David went through his work on the C2x charter.

DRs in the next TC will be those that are CLOSED at Markham, April 2017.

(Do LaTeX conversion first, then look to publish a TC.)

Should the next Standard be driven by Content, or by Schedule?

Proposed Schedule:

CD Registration (bugfix) — December 2016

CD Ballot (bugfix) — June 2017

DIS Ballot (bugfix) — December 2017

CD Registration (C2x) — December 2019

CD Ballot (C2x) — December 2020

DIS Ballot (C2x) — December 2021

6.3.7 N2023, N2034 - Comma omission and comma deletion (Koppe) (8.1.4.2)

See 8.1.4.2

6.3.8 N1996 – Constraints on defined

Is defined an identifier or an operator. Larry says it's both, depending on context.

No committee action at this time.

6.3.9 N1997 – Missing syntax

examples from Rajan

There is no DR here, but the Standard seems to be unclear as to where `_Pragma` can be used. We would need a volunteer to write the grammar needed for this. What is the problem to be solved? That is not clear. There seems to be no sentiment to add such grammar to the Standard.

6.3.10 N2006, Part 2 – TS 17961 addition to C2X

Clive

How do we want to handle updating the TS with the items listed here. Create a new study group?

ACTION: David K to add “Secure Coding TS Update” to the agenda Pittsburgh.

6.3.11 N2007, Part 2 – Named Child struct-union with no member for C2X

Is this issue a constraint? Yes, and there’s a good reason for it. No further action.

7. Defect Reports

7.1 Discussion on the Defect Report Process

Blaine covered the basic DR process.

7.2 ISO/IEC 9899:2011 Defect Reports [[N1986](#)]

DRs in REVIEW

DR 406 – Moved to Closed

DR 407 – Moved to Closed

DR 423 – Moved to Closed

DR 431 – Moved to Closed

DR 437 – Moved to Closed

DR 441 – Moved to Closed

DR 452 – Moved to Closed

DR 462 – Moved to Closed

DR 470 – Moved to Closed

DR 472 – Moved to Closed

DR 474 – Moved to Closed

DRs in OPEN Status

DR 409 - f(inf) is inf being a range error
Moved to Review

DR 427 - Function parameter and Return Value Assignments
Moved to Review

DR 439
See N2027 (Nelson) for material concerning point D of DR 439.
Point D aside:
Moved to Review w/o Point D

Point D (N2027)
There are two DRs here. One for alignment case, another for atomic case.
DR 494 – The alignment specifier part

DR 495 - The atomic type specifier case: what happens in file scope of the first form of the declaration?

ACTION Blaine to write up DR 494 and DR 495 with Clark's assistance from N 2027.

DR 444
See N2028.
Rajan – Is this implementable everywhere? Clark – that's not the point of this DR.
ACTION – Blaine to take the words from N2028 and construct a Proposed TC for DR 444
Leave OPEN

DR 453
Moved to Review

DR 465
Moved to Review

DR 467
There is reflector email that disagrees with the Proposed TC for paragraph 12 (5.2.4.2.2 #12). Replace that with the Committee Discussion above it.
Leave OPEN

DR 469
N2019 is a revised Suggested Technical Corrigenda, and addresses the issue that the behavior of a recursive mx_unlock was simply missing from the Standard.

N2026 is the 'other' paper written to address the same issues.

Blaine has N2019 that he believes addresses this DR. Long discussion on thread termination, what it means, reconciling the two papers. Douglas: Unlocking v. releasing.

ACTION: Blaine to reconcile N2019 and N2026 for DR 469.

Leave OPEN

DR 473 (N1903)

Revised Proposed TC exists

Needs to be reworked. Should say '..if and only if...' in a number of places where it says '..only occurs if...' in three places - domain, pole, and range.

Leave OPEN

DR 475

Adopt the Committee Discussion of April 2015 as a Proposed TC.

Moved to Review

DR 476 - volatile semantics for lvalues [\[N1956\]](#) (Sebor)

We would define a new term, volatile access, and applied it as needed. C++ compatibility item.

DR 476 Resolution paper on Wiki.

Change made in 6.7.3 is wrong. J.3.10 goes away. The words are 'closer' to that in C++, but are really designed to fix 'volatile' in C. The change for Annex L looks wrong. Make that a separate DR, and leave it alone here.

ACTION: Blaine to strike the L portion in the DR 476 Resolution paper.

ACTION: Robert Secord to write a new DR for the Annex L portion contained in the DR 476 Resolution paper.

Leave OPEN

DR 477 - nan should take a string argument [\[N1957\]](#) (Sebor)

Moved to Review

DR 478 - Valid uses of the main function [\[N1960\]](#)

Moved to Review

DR 479 - Unclear specification of mtx_trylock on non-recursive mutexes [\[N1963\]](#)

ACTION: Blaine to look at adding DR 479 to DR 469.

Leave OPEN

DR 480 - `cond_wait` and `cond_timewait` should allow spurious wake-ups [[N1964](#)]

Reword to remove 'endeavors'.

Leave OPEN

DR 481 - Controlling expression of `_Generic` primary expression [[N1930](#), [N2001](#)]

Reviewed N2001. Type qualifiers are dropped from L value conversions (fn).

Also: lvalue conversion, .. array to pointer conversion.. or function to pointer conversion...'

Leave OPEN

DR 482- Macro invocation split over many files [[N1942](#)]

Move the 2nd paragraph of Committee Discussion to PCR.

Leave Open

DR 483- `__LINE__` and `__FILE__` in macro replacement list [[N1943](#)]

See also WG21 N4220.

There is no real world impact for this change. Nobody is getting this wrong. It is already 'sufficiently' well specified.

Moved to Review

DR 484 - Invalid characters in `strcoll()` [[N1944](#)]

POSIX requires this. We decided some time ago to not set new errnos due to performance issues.

Moved to Review

DR 485 - Problem with the specification of `ATOMIC_VAR_INIT` [[N1951](#)]

New document coming: 'Revised PTC for DR 485'

More work is needed.

ACTION Jens and Clark to rework the 'Revised PTC for DR 485'

Leave OPEN

DR 486 - Inconsistent specifications for arithmetic on atomic objects [[N1955](#)]

ACTION: Blaine to write a Proposed Committee Response for DR 486.-Done

Moved to Review

DR 487 – `timespec` v. `tm` (N1987)

Section referenced in the paper should be 7.27 v. 7.21. Why does it differ? The text in the footnote should be normative, and added to the normative portion of the text.

Accept Suggested TC as Proposed TC.

Leave OPEN

DR 488 – `c16rtomb` on wide characters encoded as multiple `char16_t` (N1991)

This may be a misspecification that does not handle all legal input. This is a bug in the Standard.

ACTION – Philipp Krause to write a Suggested TC along the lines of the second option for DR 488.

DR 489 – Integer constant expression (N1994)

This is a ‘radical change’ to the Standard, a new feature. Needs a Proposed Committee Response. C++ has words for an ‘unevaluated context’. We have a growing number of these. This is a possible candidate for SD 3 for C2X.

Straw Poll: Is this a problem? 2-8-7 No.

ACTION: Blaine to write a Proposed Committee Response for DR 489

DR 490 – N1995

There is no question posed here. This needs a Proposed Committee Response.

ACTION: Blaine to write a Proposed Committee Response to DR 490.

DR 491 – Concern with keywords that match reserve identifiers, N2000

Keywords without an underscore are not reserved. The second change in the Suggested TC for DR 491 is wrong.

Straw Poll – Adopt the first bullet as a Proposed TC, 11-4-5 – Passes

ACTION – Blaine to adopt the first bullet of the Suggested TC as the Proposed TC for, including ‘by the program’ for DR 491.

DR 492 - Named child struct/union that doesn’t declare a member. (N2007)

The first part only. This does not appear to be a defect.

Does this need to be fixed. (Y-N-A) 1-12-6 – No

ACTION – Blaine to write a Proposed Committee Response for DR 492.

DR 493 N2025

We are going through the questions asked with some discussion. All of the revised material in response to DR 493 will be folded into DR 469.

Leave OPEN

7.3 TS 17961:2013 Defect Reports [N1985]

7.4 TS 18661-1 Defect Reports [N2029]

N2029 contains several potential DRs

DR 1, 7.4.1 Typos – 2

C 7.6.1a#4 - function should be 'function'

C7.6.24a#3 – fetestexcept should be fettestexceptflag

DR 2, Functions that round result to narrower type don't always

DR 3, not a DR, Specification for nonexistent case – editorial

DR 3, Feature macros and header file inclusions

WANT macros must precede the header file that makes use of them.

TS 18662-2

DR 1 – Typos – not a DR, editorial

TS 18662-3

Typos – not a DR, editorial

DR 1 - Error in function name. 'scoshdNx' should be 'coshdNx'. editorial.

8. Other Business

8.1 Documents for the next meeting that can be reviewed time permitting.

8.1.1 Existing Defect Reports

8.1.1.1 N2027, DR 439

8.1.1.2 N2028, DR 444

8.1.2 Are these DRs?

8.1.2.1 N2025, Mutex Initialization Underspecified - DR 493

8.1.2.2 N2026, Wording for Recursive Mutex Specification

This document conflicts with DR 469 and N2019 written by Blaine covering the same material. Treat this paper as input for DR 469.

8.1.2.3 N2031 Offsetof Underspecified - DR 496

8.1.2.4 N2032 White space character - DR 497

8.1.3 Other Documents

8.1.3.1 N2024, Another LaTeX package for future C Standard

Larry Jones has agreed to continue as Project Editor. As such, it's up to him. He has not really worked with LaTeX, but it's just syntax. It's easier for him if we leave things as they are. The Floating Point Group would prefer LaTeX. Jens is confident the two translations are quite good, but there are some differences between the LaTeX and PDF versions.

ACTION: Willem and Jens to work with Larry to get him up to speed on the use of LaTeX.

Jens will act as back up editor.

8.1.3.2 N2030, A Closure for C

Blaine presented N2030, A Closure for C, for possible inclusion in C2X. Closures were introduced by Apple in Dec 2007. Today both Apple and Microsoft use closures. After the presentation there were a number of questions which Blaine answered.

Straw Poll: Do we want to move forward with closures in a Technical Specification?
7-0-9 (Y-N-A)

David believes we need to see more.

8.1.4 Documents with less than two weeks' notice.

8.1.4.1 N2033, fscanf example 5

Is this editorial ? Yes.

8.1.4.2 N2034, Comma omission and comma deletion. (Supersedes N 2023)

Thomas Koeppel presented N2034. This paper is also being presented to WG21/ C++ for adoption.

Another technique:

```
#define F3(X ... ) ... // no comma after X
```

But there are things in C++ that get in the way of that technique.

It's highly likely that this proposal will miss C++17, and will likely make C++20. We will have time to track and assess the progress in WG21.

ACTION: David to add N2034 to SD3, and track its state with WG21.

Liaison Statement to WG21

1. **WG14 has interest in this topic N2034, and will consider it for a future revision of the Standard.**

2. The committee has not decided on a particular mechanism, but likes the one presented in N2034.

**8.1.4.3 N2037, mblen, mbtowc, wctomb thread-safety
DR 498**

**8.1.4.4 N2038, Anonymous structure in union behavior
DR 499**

8.1.4.5 N2042, Clarification of unspecified value
We may have nothing to say about N2042. Pushed off to Pittsburgh.

9. Resolutions and Decisions Reached

9.1 Review of Decisions Reached

9.1.1 Liaison Statement to WG21

1. WG14 has interest in this topic N2034, and will consider it for a future revision of the Standard.
2. The committee has not decided on a particular mechanism, but likes the one presented in N2034.

9.1.2 Liaison Statement to WG21

WG14 is sympathetic to the direction of N2016, and has solicited an additional paper providing more details. WG14 prefers the term 'short float'.

9.1.3 WG14 Liaison Statement to WG23

WG14 does not want to own this document, but encourages members to submit suggestions for changes to Clive Pygott.

9.2 Review of Action Items

CARRY-OVER ACTION ITEMS

ACTION: Clark to write a Proposed TC for DR 444.

Done

ACTION: Blaine to write up words for Jens for DR 485.

Done

ACTION: Jens to develop new material based on DR 486 and write new papers that are SD-3 material, and DR material, as needed.

OPEN

NEW ACTION ITEMS

ACTION: Convener to forward PDTS 18661-5 to SC22 for DTS Ballot

ACTION: Boris Fomitchev and Sergei Nikolaev to develop the next iteration of N2016.

ACTION: Convener to add to the C2X charter a guideline for future APIs, size should be specified prior to an array.

ACTION: Convener to add N2008 to SD3.

ACTION: Convener to prepare a draft New Work Item Proposal for CPLEX by the SC22 Plenary in September 2016.

ACTION: Convener to add "Secure Coding TS Update" to the agenda Pittsburgh.

ACTION: Blaine to write up DR 494 and DR 495 with Clark's assistance from N 2027.

ACTION: Blaine to take the words from N2028 and construct a Proposed TC.

ACTION: Blaine to reconcile N2019 and N2026 for DR 469.

ACTION: Blaine to strike the portion from paper used for committee direction in the DR 476 Resolution paper.

ACTION: Robert Secord to write a new DR for the Annex L portion contained in the DR 476 Resolution paper.

Done N2043

ACTION: Blaine to look at adding DR 479 to DR 469.

ACTION: Jens and Clark to rework the 'Revised PTC for DR 485'

Done

ACTION: Philipp Krause to write a Suggested TC along the lines of the second option for DR 488, in N2037 to be discussed in Pittsburgh.

Done

ACTION: Blaine to write a Proposed Committee Response for DR 489

ACTION: Blaine to write a Proposed Committee Response to DR 490.

ACTION: Blaine to adopt the first bullet of the Suggested TC as the Proposed TC for, including 'by the program' for DR 491.

ACTION: Blaine to write a Proposed Committee Response for DR 492.

ACTION: Convener to add N2034 to SD3, and track its state with WG21.

ACTION: Willem and Jens to work with Larry to get him up to speed on the use of LaTeX.

10. Thanks to Host

Thanks to BSI & Clive Pygott for hosting the meeting.

11. Adjournment

The meeting was adjourned at 16:17 hours, April 14, 2016 (Garst/Wakely)

Minutes for the PL22.11/US TAG Meeting, Tuesday, April 12, 2016 at 16:00 local

<u>Name</u>	<u>Organization</u>	<u>Primary/Alternate</u>	<u>Comments</u>
David Keaton	CERT/SEI/CMU	Primary	
Daniel Plakosh	CERT/SEI/CMU	Alternate	
Jens Gustedt	CERT/SEI/CMU	Alternate	
Lars Bionnes	Cisco	Primary	
Blaine Garst	Garst	Primary	
Rajan Bhakta	IBM	Primary	
Robert Secord	NCC		First Meeting
John Parks	Intel	Primary	PL22.11 Chair
Clark Nelson	Intel	Alternate	
Clive Pygott	LDRA	Primary	
Douglas Walls	Oracle	Primary	PL22.11 IR
Barry Hedquist	Perennial	Primary	PL22.11 Secretary
Tom Plum	Plum Hall, Inc.	Primary	
Jonathan Wakely	Red Hat	Primary	
Fred Tydeman	Tydeman	Primary	PL22.11 Vice Chair

1. Approval of Agenda

The agenda was approved by unanimous consent (Garst/Walls).

2. Approval of Previous Minutes

The prior meeting minutes for Kona, October 2015, were approved by unanimous consent (Hedquist/Tydeman)

3. INCITS [Antitrust Guidelines and Patent Policy](#)

Reviewed the Antitrust Guidelines and Patent Policy

4. INCITS official designated member/alternate information

Be sure to let Lynn Berra know of any changes.

4.1 INCITS Reorganization. Everyone who was a PL22.11 member is now a member of PL22

5. Identification of PL22.11 Voting Members

1. PL22.11 Members Attaining Voting Rights at this Meeting

Red Hat

2. Prospective PL22.11 Members Attending their First Meeting

NCC Group

6. Members in Jeopardy

1. Members in jeopardy due to failure to return Letter Ballots

none

2. Members in jeopardy due to failure to attend Meetings

none

6.2.1 Members in jeopardy for failure to attend this meeting.

none

6.2.2 Members who regained voting rights by attending this meeting

none

6.2.3 Members who lost voting rights for failure to attend this meeting

none

3. Members who previously lost voting rights who are attending this meeting

none

7. Procedures for Forming a US Position

per normal

8. New Business

8.1 Ballot on ISO/IEC TS 17961:2013/DCOR1 [SC22 N5108], (WG14 N2010, N2011)

QUESTION: PL22.11 Approves of SC22 N5108, ISO/IEC TS 17961:2013/DCOR 1, Technical Corrigendum for ISO/IEC 17961:2013. (Walls/Garst)

Roll Call Ballot

CERT/SEI/CMU	Yes
Cisco	Yes
Garst	Yes
IBM	Yes
Intel	Yes
LDRA	Yes
Oracle	Yes
Perennial	Yes
Plum Hall, Inc.	Yes
Red Hat	Yes
Tydeman	Yes

11-0-0 Passes

9. Next Meeting

The next meeting of the US TAG (PL22.11) for SC22/WG14 will be October 18 2016, 1600 hours, Pittsburgh, PA, USA

10. Adjournment

Meeting adjourned by unanimous consent (Hedquist/Tydeman) at 16:30 hours, April 12, 2016.