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 N2093
INCITS PL22.11-2015-00005
Date: 2015-10-29
Reply To The Attention Of: Barry Hedquist
PL22.11 Secretary
Email: beh@peren.com

MINUTES
26-29 October, 2015
MEETING OF ISO/IEC JTC 1 SC 22/WG 14 AND INCITS PL22.11

Dates and Times

26 October, 2015 09:00 – 12:00 Lunch 13:30 – 16:30
27 October, 2015 09:00 – 12:00 Lunch 13:30 – 16:00
28 October, 2015 09:00 – 12:00 Lunch 13:30 – 16:30
29 October, 2015 09:00 – 12:00 Lunch 13:30 – 16:30

Meeting Location

Royal Kona Resort
75-5852 Alii Drive
Kailua-Kona, Hawaii 96740, USA
Phone: +1 808 329 3111

Meeting information

N 1933

Local contact information

Thomas Plum (tplum@plumhall.com)
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Teleconference information

Topic: ISO/IEC JTC 1/SC 22/WG 14
Date: Every day, from Monday, October 26, 2015, to Thursday, October 29, 2015
Time: 9:00 am, Hawaii Time (Honolulu, GMT-10:00)
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, Plum)

Tom Plum welcomed us to beautiful Kona, HI. There is coffee, tea, and water. Facilities are outside the room, in this building. Lunch will be at 12:00.

1.2 Introduction of Participants/Roll Call

Name	***Organization***	***NB***	***Comments***
David Keaton	CERT/SEI/CMU	USA	WG14 Convener
Daniel Plakosh	CERT/SEI/CMU	USA	
Jens Gustedt	CERT/SEI/CMU	USA	
Lars Bjonnes	Cisco	USA	
Blaine Garst	Garst	USA	
Richard Smith	Google	WG 21 PE	
Rajan Bhakta	IBM	Canada	
Michael Wong	IBM	USA	
John Parks	Intel	USA	PL22.11 Chair
Clark Nelson	Intel	USA	
Pablo Halpern	Intel	USA	
Clive Pygott	LDRA	USA	via dial-in
Douglas Walls	Oracle	USA	
Nawal Copty	Oracle	USA	
Barry Hedquist	Perennial	USA	Recording Secretary
Tom Plum	Plum Hall, Inc.	USA	
Martin Sebor	Red Hat	USA	
Aurelien Regat-Barrel	Self	France	
Bill Seymour	Seymour	USA	
Kirk Snyder	Snyder	USA	
Fred Tydeman	Tydeman	USA	PL22.11 Vice Chair

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 [N1929]

Several typos from were reported by various members and corrected.

The minutes were approved by unanimous consent with those changes. (Garst/Parks)

Final Minutes from Lysaker will be N1977.
Draft Minutes from Kona will be N1978.

1.5 Review of Action Items and Resolutions (Hedquist)

ACTION: Blaine to write up an approach for the Floating Point Group that goes a bit beyond the approaches discussed in N1841.
Done

ACTION: Larry to review the words for a Proposed TC, DR 444. (Done)

ACTION: Martin to examine what C++ says about temporary objects (object with a temporary lifetime). RE: DR 452.
OPEN

ACTION: Martin will provide words to clarify that a NULL pointer can be a valid argument as a consequence of the Proposed TC for DR 465.
DONE: N1976

ACTION: Tom Plum to write a paper explaining C++ qualification conversions.
OPEN: Conversions are in flux. Will discuss.

ACTION: Tom Plum to write a paper describing C/C++ pointer comparison.
OPEN: See above

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

ACTION: Convener to add N1899 to SD 3 with a note concerning the **<=** issue of 7.20.2.1
DONE N1972

ACTION: Convener to add N1923 to SD 3
DONE N1972

ACTION: Convener to add N1910 to SD 3
DONE N1972

ACTION: Convener to add N1911 as “unspecified” behavior rather than implicit “undefined” to SD 3.
DONE N1972

ACTION: DR 427: Blaine to investigate other concerns.
OPEN

ACTION: DR 437: Blaine to add Rajan’s words in Committee Discussion as a Proposed TC.
DONE DR 437

ACTION: DR 439: Clark to write a paper.
DONE N1965

ACTION: DR 444: Blaine will look for a number of constraints that capture Tom’s thoughts and incorporate them into the Committee Discussion.
DONE

ACTION: DR 452: Blaine Generate a Proposed Technical Corrigenda based on the Committee Discussion of April 2015.
DONE DR 452

ACTION: DR 467: Convener to add macro portion to SD 3
DONE N1972

ACTION: DR 462: Blaine to take the new words from David as a Proposed TC.
DONE DR462

ACTION: DR 453: David to rewrite his proposed TC as needed, forward this to Blaine, to include in the Committee Discussion.
DONE DR453

ACTION: Jens to convert his paper on “Controlling Expression of _Generic primary expression” into an ‘N’ paper for the post-meeting mailing.
DONE N1930

1.6 Approval of Agenda

Revisions to the Agenda are posted on the Wiki, and reflected here.

Added Items:

7.1 Item on DR 409

6.3.1 - Doc Review N1974 v. N1968

N1976 – New potential DR – end of Item 8.

6.2.3 – Tuesday Afternoon, Pablo/C++ item

Deleted Items: None

Agenda approved by unanimous consent. (Plum/Garst)

1.7 Identify National Bodies Sending Experts

US, Canada

2. Reports on Liaison Activities

2.1 SC 22 (Keaton)
IEC 1906 award to John Benito.
Changing URLs for the ISO/IEC e-committee. We will have two systems for a while.

2.2 PL22.11/WG 14 (Parks / Keaton)
PL22.11 – no report
WG14 – Updated SD 3 [N1972], Convener’s Report and Business Plan

2.3 PL22.16/WG 21 (Plum)
Pointer qualification/comparison issue is in the status as an ‘extension’, likely to produce some kind of diagnostic. We are keeping a list of these in SD 3 (somewhat). N1923, in the mailing, has it.

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

2.4 PL22 (Plum) – *No Report.*

2.5 WG 23 (Pygott) – No report at this time. One coming.

2.6 MISRA C (Pygott) – Still looking at a Version 3. The company that supports MISRA has been taken over by a for-profit organization. Situation is not clear.

2.7 Other Liaison Activities - None

3. Reports from Study Groups

3.1 C Floating Point activity report (Rajan)

Part 5 under construction, Parts 3 & 4 are published. Deadline moved to Dec 2017 as an extended.

3.2 CPLEX activity report (Nelson)

Not a lot of progress since the last WG14 meeting. Do not have a new working paper. Hoping to have a more complete document in October.

October 2015:
A coherent set of features now exists. N1996 will be discussed later.

4. Teleconference Meeting Reports

4.1 Report on any teleconference meetings held – No new reports

October 2015: None

5. Future Meetings

5.1 Future Meeting Schedule

- Spring, 2016 – London, UK, 11–14 April, 2016 – BSI (Gunnersbury, UK) WG23 meeting will follow WG14 (Fri & Sat).
- Fall, 2016 – Pittsburgh, PA, USA, CERT, Oct 17-21, 2016.

ACTION Barry & David to send email to Daniel on dates for this meeting.

- Spring, 2017 – Markham, ON, Canada (tentative) IBM, Apr 3-7, 2017.
- Fall 2017 TBD

5.2 Future Mailings

- Post Kona: 30-November-2015
- Pre London: 14-March-2016
- Post London: 09-May-2016

6. Document Review

6.1 Possible Defect Reports

6.1.1 Controlling expression of _Generic primary expression [N1930]
Tied to DR 423? No, different.
DR 481

6.1.2 Extra range errors [N1941]
Part of DR 473? Yes, fold it in.

6.1.3 Macro invocation split over many files [N1942]
DR 482

6.1.4 __LINE__ and __FILE__ in macro replacement list [N1943]
DR 483

6.1.5 Invalid characters in strcoll() [N1944]
DR 484

6.1.6 Problem with the specification of ATOMIC_VAR_INIT [N1951]
DR 485

6.1.7 Inconsistent specifications for arithmetic on atomic objects [**N1955**]
DR 486

6.1.8 `volatile` semantics for lvalues [N1956]
DR 476

6.1.9 nan should take a string argument [N1957]
DR 477

6.1.10 Valid uses of the main function [N1960]
DR 478

6.1.11 Proposal for thread-safe set_constraint_handler_s [N1962]
This should be a proposal for future work, rather than a DR. We did not integrate threads with Annex K.
Move N1962 to Item 6.3.3 on the agenda.

6.1.12 Unclear specification of mtx_trylock on non-recursive mutexes [N1963]
DR 479

6.1.13 cnd_wait and cnd_timewait should allow spurious wake-ups [N1964]
DR 480

6.1.14 TS 18661-5 (N1968) (N1974)

6.1.15 N1976 – Revised words for DR 465 (Sebor)

6.1.16 N1979 – Revised Words for DR 409 (Closed) (Tydeman)

6.2 Documents bound to a specific time

6.2.1 Monday Afternoon: CPLEX working draft [N1996]

Pablo Halpern presented a slide briefing on CPLEX. They have been meeting via teleconference every two weeks, and have combined features of Open MP and Cilk. Question: Is there a viable marketplace for the approach being taken vs using Open MP, Cilk, or 'something else', and is it WG14's job to define that? Publishing a TS can help answer that question. Philosophical discussion followed.

Where do we go from here? Pablo is still working on an implementation. It won't be production quality, will be compatible with Cilk-Plus. How does Open MP feel about the approach being taken?

Straw Poll:

Should WG14 continue to improve the CPLEX document?
13-0-2. YES

6.2.2 Tuesday Morning: Transactional Memory (TM) Support for C [N1961] (Wong)

WG21, SG5 proposes this paper, N1961, for C. Michael Wong presented a set of slides for the overall proposal. TM can be considered the 'big brother' of atomics. C++ TS has been published, and will be implemented by GCC (GNU 6, Feb 2016). The proposal does not require TM hardware, although some exists from IBM and Intel.

Where do we go with this proposal?

Do we want to see additional papers for Transactional Memory for C.
16-0-1 – YES

Criteria:
Only allow implicit transaction_safe for internal linkage functions if the compiler can determine it?
Reason: Link issues otherwise for defined functions.
Leave it as a quality of implementation? Some preference for this, some for keeping it required.

Don't put in _Optimized_for_syncrhonzied due to name mangling implications.

Having user cancellable atomics?
'_Cancel' instead of 'break _Atomic;' or something else to avoid confusion with the existing 'break'.
Consensus: Do not put the feature in for now.

goto/break/continue/etc. allow partial commits.
Clark: Not really partial since it is like any other conditional path.
Consensus: Do allow this to be commits.

Request from Jens: Need to give more information on what is allowed inside the atomics.

6.3 Other Documents

6.3.1 Updated Draft of TS 18661-5 [N1968] [N1974] [N1975]

Rajan walked us through the completed version of TS 18661-5.

Pragmas should be moved up? Rajan agreed.

Issues:

Should the following be disallowed?

Currently allow a try without a catch (for delayed try, flags for designated exceptions are restored; for ASAP try, it's unspecified whether flags for designated exceptions are restored).

Currently allow a catch without a try (it's not executed).

Currently allow a catch to have an exception designation that does not appear in the try except-list (has no effect).

Are action names DEFAULT, NO_FLAG, OPTIONAL_FLAG, and BREAK ok? YES

Should there be a 1 to 1 mapping for the exceptions in the TRY BLOCK?
9-0-6 – YES

6.3.2 Updated Field Experience with Annex K — Bounds Checking Interfaces [N1969]

This paper proposes that Annex K be removed or deprecated, then removed, from the C Standard. Annex K is optional to C, and nearly identical to TR 24731-1. Martin Sebor presented the paper, and worked on the Annex K (TR 24731-1) implementation at Cisco. The purpose of Annex K was to apply the features therein to existing code for bounds checking purposes. Very few compilers have attempted to implement Annex K.

CERT would not be opposed to 'fixing' Annex K, but throwing it out would not be a move in the right direction.

Clive – Misra C will mandate the use of Annex K when it gets around to C11

SP: Should Annex K be removed from a future version of the C Standard?

9-6-1

SP: Would WG14 like to see papers to repair or replace Annex K?

13-0-3

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

6.3.3 Proposal for thread-safe set_constraint_handler_s [N1962]

Presented by Martin Sebor, now with Red Hat. Adds a new function, thrd_set_constraint_handler_s(), and proposes changes to Annex B, stdlib.h, as well as Annex K.

Tom would prefer to make the setting of constraint handlers implementation-defined, if Annex K is retained. Blaine prefers accepting the proposal as a DR. Douglas disagrees that this is a DR. Martin believes the semantics, rather than the name of the function, is what is important.

See 6.3.2 for action on this item.

6.3.4 Update to the preprocessor specification, Rev 2 (WG21 N4220) (Halpern)

This paper provides a list of 'problems' with the preprocessor, such as items that have undefined behavior, etc. Fred volunteered to work with the paper's author. Undefined behavior in the preprocessor may be obsolete in C, so it may well be worth looking at.

7. Defect Reports

7.1 Discussion on the Defect Report Process

Blaine covered the basic DR process.

DR 409 – Reopen?
Fred says: (SC22WG14.13850) DR 409

> DR 409 has a wrong statement in the Proposed Committee Response.
>
> The statement:
> "Also, by 7.12.1 paragraph 5, since the result is not finite, a range error has not happened."
>
> should be:
>
> "By 7.12.1 paragraph 5, since the result is not finite, an overflow has not happened."

Per minutes for Oct 2012 (N1692):

> DR 409 - OPEN (N1629)

Feb, 2012 Meeting

- The committee rejected the Suggested Change in the main body of this defect report.
- The committee considered the following, but rejected it (as just being a restatement of 7.12.1 paragraphs 4 and 5).

If the result overflows, a range error shall occur.

- A question arose as to why these range error cases are listed in the individual functions (instead of just being covered by the blanket 7.12.1 paragraphs 4, 5, and 6)

7.12.1 Paragraph 1 has the answer:

The behavior of each of the functions in <math.h> is specified for all representable values of its input arguments, except where stated otherwise.

- Several other approaches were discussed, without any consensus reached:

1. Add a footnote to 7.12.1 paragraph 5, first sentence:

In an implementation that supports infinities, a range error may happen for functions that map an infinity argument into an exact infinity or exact zero result.

2. Add to end of 7.12.1 paragraph 4:

Recommended practice

In an implementation that supports infinities, a range error should not happen for functions that map an infinity argument into an exact infinity or exact zero result.

3. Add to 7.12.1 paragraph 4:

An implementation may define additional range errors, provided that such errors are consistent with the mathematical definition of the function.

Oct 2012 meeting

Committee Discussion
Fred wrote a paper, N1629. There are two parts.

1. Fixing a contradiction.

The Committee rejected the words for the Suggested Change in Feb 2012

But, this change looks OK to Jim Thomas. Break out 1-5, 10-12, as OK, Rajan disagrees. This change leaves infinity out for those who treat infinity as too large. Making this change will create work for implementers. Jim's fine reading of the definition range error 7.12.1;p4 of would indicate infinity is excluded, thus no change is needed.

2. Taking care of infinity.
Implemented defined, or undefined. Rajan would prefer to see undefined behavior, so that implementers don't have to document the feature. Make it 'bounded' undefined behavior. That does not solve the problem, because it can still trap. Also, 'bounded' applies to Annex L. Not an option.

ACTION: Fred to write up words as a proposed Record of Response – DONE

Fred's words follow:

Some on the committee believe that there is a contradiction. However, no agreement could be reached on how to fix it.

Making the behavior implementation defined for infinity arguments requires implementers to document their behavior and some implementers do not wish to do that documentation.

Some on the committee believe that exp(+infinity) being a range error is prohibited and is a bug in those implementations that treat it as such.

exp(+infinity) is +infinity. Since the input +infinity is representable, then the output +infinity is representable in an object of the specified type. By, 7.12.1#4, a range error has not happened.

Also, by 7.12.1#5, since the result is not finite, a range error has not happened.

A number of folks expressed concern over these words, but they are left to the Maintainer of the Defects to rework if needed.

Fred presented another possible solution using 'unspecified' , that would not require implementers document anything. Jim opposes this, since we had already decided yesterday that the existing words are correct, and no change is needed. There is no consensus to adopt Fred's new proposal.

Leave OPEN.

This DR was sent to REVIEW at the next meeting, CLOSED at the meeting following that.

REOPEN this DR. Change per Fred's message (N1979).

7.2 ISO/IEC 9899:2011 Defect Reports [N1931]

DRs in REVIEW

DR 445 - moved to CLOSED

DR 448 - moved to CLOSED

DR 450 - moved to CLOSED

DR 455 - moved to CLOSED

DR 456 - moved to CLOSED

DR 461 - moved to CLOSED

DR 464 - moved to CLOSED

DR 465 -
See N1976, from Martin Sebor. Suggested words:

-2- The atomic_is_lock_free generic function indicates whether or not atomic operations on objects of the type pointed to by obj are lock-free. obj may be a null pointer.

(i.e., add the last sentence.) Alternatively, add a footnote with the same text.

Add the last sentence as a footnote.
Moved to OPEN

DR 466 - moved to CLOSED

DR 467 -
Resistance on the reflector to 'maximum … finite floating-point number.'

ACTION – Fred to provide email numbers for dissent on DR 467
Moved to OPEN

DR 468 - moved to CLOSED

DR 471 - moved to CLOSED

DRs in OPEN Status

DR 406
Proposed TC exists.
Moved to REVIEW

DR 407
Proposed TC Exists.
Moved to REVIEW

DR 423
Proposed TC Exists
Moved to REVIEW

DR 427
ACTION: Blaine to reconcile the relevant sections of DR 427 to develop a Proposed Committee Response.
Add info on reconciliation of GCC and Solaris.
Leave OPEN

DR 431
Both a Proposed Committee Response and Proposed TC exist.
Moved to REVIEW

DR 437
Proposed TC Exists
Moved to REVIEW

DR 439
N1965
Point A is editorial (included in the wording for Point C); Point B may require a non-normative change; Point C has a proposal, Point D needs further discussion, Point E is probably an editorial change.

Points C and E look good as written. Adopt as Proposed TC. Omit D because there is practice to the contrary.

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

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

Leave OPEN

DR 441
Proposed Committee Response and Proposed TC exist. The first Proposed CR is obsolete.
Moved to REVIEW

DR 444
We need something closer to a Proposed TC.
ACTION: Clark to write a Proposed TC for DR 444.
Leave OPEN

DR 452
We have a Proposed CR and a Proposed TC.
ACTION: Blaine to fix the typo in DR 452.
Moved to REVIEW

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

DR 462
Proposed TC Exists
Moved to REVIEW.

DR 469
ACTION: Blaine to write up the behavior of recursive mutex for DR 469.
Leave OPEN

DR 470
A Proposed TC exists.
Moved to REVIEW

DR 472 (N1902)
A Proposed TC exists.
Moved to REVIEW

DR 473 (N1903)
A Proposed TC exists.
Do we want to fold N1941 into this?
Typo in N1941.
Wording seems to be wider in scope than DR 473.
Message 13872 says 'only if'.
Scope goes beyond the functions that are in DR 473. It covers ALL math functions.
We have conflicting practice in the field. Per Rajan, we know about IBM, there may be others. Rajan favors the change, but is conflicted with the known factor of many other changes with IBM and others. Clark is in favor of letting people think about a more global change. Let it sit for the next meeting.

Fred's email:

> In thinking about DR 473 and 409 some more,
> I now like the following solution.
>
> In first line of 7.12.1, #2, #3, and #4,
> change "occurs if" to either
> "only occurs if"
> or
> "occurs only if"
>
> [I think that is better than "if and only if"].
>
> Add to 7.12.1#4:
> The description of each function lists any required range errors;
> an implementation may define additional range errors, provided
> that such errors are consistent with the mathematical definition
> of the function and are the result of either overflow or underflow.

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

Leave OPEN

DR 474
A Proposed Committee Response exists.
Moved to REVIEW

DR 475
Adopt the Committee Discussion of April 2015 as a Proposed TC.
Leave OPEN

DR 476 - `volatile` semantics for lvalues [N1956] (Sebor)
Definition of 'volatile' differs between C and C++. The intent is there, but the words do not reflect the intent, per the C99 rationale. IBM is in agreement with the use. The changes being proposed will not bring us into harmony with C++ ?
Leave OPEN - Tweaks are encouraged.

DR 477 - nan should take a string argument [N1957] (Sebor)
Fred agrees with this DR. Rajan as well.
Suggested TC to Proposed TC. Do we need something for wide characters? No
Leave OPEN

DR 478 - Valid uses of the main function [N1960]
Proposes to add a non-normative footnote. Larry has words on this. Intent is to make the Standard clearer. The Record of Response (RoR) can do that.
SP: In favor of adopting DR 478.
1-10-3 – NO
ACTION: Blaine to come up with a Proposed Committee Response for DR 478.
Leave OPEN

DR 479 - Unclear specification of mtx_trylock on non-recursive mutexes [N1963]
This applies only to non-recursive mutexes. Blaine is working on the DR 469 for non-recursive mutexes. This can be added, or just left OPEN.
ACTION: Blaine to look at adding DR 479 to DR 469.
Leave OPEN

DR 480 - cnd_wait and cnd_timewait should allow spurious wake-ups [N1964]
Generally, in non-POSIX environments, spurious wake-ups are not allowed. Note that 'spurious wake-ups' is not a defined terminology. David thinks this is not really needed. What does 'endeavor' really mean? Add a footnote? No.
SP: Delete 'spurious,' from the Suggested TC, and apply as the Proposed TC.
14-0-1 – YES
Leave OPEN

DR 481 - Controlling expression of _Generic primary expression [N1930]
Jens discussed his paper.

Was our initial intent choice 1 or 2? Clark: The type of the controlling expression cannot be a qualifying type. The original adoption of _Generic came out of EDG's work. How would they handle this? The array conversion and L value conversion are described separately.

Jens will drop qualifiers. Add a third choice?

Generic array selection should not be based on the size of the array.

Tom: We are modeling C++ function overloading, and conversions do take place.
Clark: The conversions in 6.3.2.1 apply, but not to sizeof(). People may have assumed otherwise.

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

DR 482- Macro invocation split over many files [N1942]
Fred Tydeman presented. Believes this is bad practice, want to make an allowed practice Undefined Behavior. Clark does not see this as a real world issue.

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

Should DR 482 be added to SD-3?
12-0-3 – YES

ACTION: Convener to add DR 482 to SD-3
Leave OPEN

DR 483- __LINE__ and __FILE__ in macro replacement list [N1943]
See also N4220.
There is no real world impact for this change. Nobody is getting this wrong. It is already 'sufficiently' well specified.

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

DR 484 - Invalid characters in strcoll() [N1944]
POSIX requires this. We decided some time ago to not set new errnos due to performance issues.
ACTION: Blaine to write a Proposed Committee Response to DR 484.
Leave OPEN.

DR 485 - Problem with the specification of ATOMIC_VAR_INIT [N1951]

Jens presented his paper. C++ uses ATOMIC_VAR_INIT.
The Suggested TC looks good, save a couple of editorial changes:

would be dropped => were dropped

add an example?

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

DR 486 - Inconsistent specifications for arithmetic on atomic objects [N1955]
Jens presented.
Several issues are presented in this DR.
Clark: We need a small group to work with Jens and clarify the points made.
David: We also need to consult the vocabulary standard to make sure we do not conflict with it.
ACTION: Convener to check on access to relevant vocabulary standard.
This is not really a DR. It's a paper with new feature requests. Separate the new features from DR material, and generate a new DR(s) as appropriate.
ACTION: Jens to develop new material based on DR 486 and write new papers that are SD-3 material, and DR material, as needed.
ACTION: Blaine to write a Proposed Committee Response for DR 486.

Leave OPEN

7.3 TS 17961:2013 Defect Reports [N1932]

DR 1
Subject: error in 5.21 example
Proposed TC exists.
Moved to REVIEW.

Moved to CLOSE

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

8. Other Business

8.1 Future of the C Standard

1. Translation to LaTeX

C Standard today is written in troff. Maintaining the Standard is a pain. Microsoft Word has difficult with large documents, and does not work well with a document this size. LaTeX is a possibility. We would like to translate the Standard into LaTeX. The translation cost is unknown, but could be a much as 1,000 hours. The Committee could do most of the validation, but someone is still needed to do the translation. ISO has a document type. C++ is using HTML to prepare TS's. The C++ Standard is discussing changing their format (LaTeX) to something easier to use. ISO has decided to do all Standards in XML via a translation from Word. ISO does not know what their XML format is. Does anyone have an employer that would pay for the translation? Difficult to tell w/o a scope of the task. David can iron out with ISO specific details if we were to decide on using HTML.

AT&T has released nroff/troff code into the public domain.

ACTION: David to get C Standard sources to Blaine, and Jens.

Original plan was to translate into LaTeX, product a TC first.

2. Technical Corrigenda

Original plan was to translate into LaTeX, product a TC first. Take the stopping point 'closed' TCs. Could probably get a first cut in six months. The atomics changes are important, and may cause us to delay a year (Oct 2016). Go for a TC full blast, while pursuing a translation to.

3. Future Updates

C 2X – keep C as small as possible, but no smaller. Closure is a possible candidate. Jens gave a slide presentation on future possible changes to the language.

David would like to wrap up the C 2x Charter at the next meeting.

9. Resolutions and Decisions Reached

9.1 Review of Decisions Reached

None

9.2 Review of Action Items

CARRY-OVER ACTION ITEMS

ACTION: Tom Plum to write a paper explaining C++ qualification conversions.
OBE

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

NEW ACTION ITEMS

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

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

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).

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

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

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

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

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

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

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

ACTION: Blaine to fix the typo in DR 452.

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

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

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

ACTION: Convener to add DR 482 to SD-3

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

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

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

ACTION: Convener to check on access to relevant vocabulary standard.

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

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

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

10. Thanks to Host

Thanks to Plum-Hall for hosting the meeting.

11. Adjournment

The meeting was adjourned at 15:37 hours, Oct 29 2015 (Garst/Hedquist)

Minutes for the PL22.11/US TAG Meeting, Tuesday, Oct 27, 2015 at 16:00 local

Name	***Organization***	***Primary/Alternate***	***Comments***
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	
Michael Wong	IBM	Alternate	
John Parks	Intel	Primary	PL22.11 Chair
Clark Nelson	Intel	Alternate	
Pablo Halpern	Intel	Alternate	
Clive Pygott	LDRA	Primary	via dial-in
Douglas Walls	Oracle	Primary	
Barry Hedquist	Perennial	Primary	PL22.11 Secretary
Tom Plum	Plum Hall, Inc.	Primary	
Martin Sebor	Red Hat	Primary (prospective)	
Bill Seymour	Seymour	Advisory	
Fred Tydeman	Tydeman	Primary	PL22.11 Vice Chair

1. Approval of Agenda

   Add: INCITS Reorganization for PL22.11

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

2. Approval of Previous Minutes

   The prior meeting minutes for Lysakar, April 2014, were approved by unanimous consent (Keaton/Garst)

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

      none

   2. Prospective PL22.11 Members Attending their First Meeting

      Red Hat

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 retained 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

   none

9. Next Meeting

   The next meeting of the US TAG (PL22.11) for SC22/WG14 will be Tuesday, Oct 18, 2016, 1600 hours, outside London, UK.

10. Adjournment

    Meeting adjourned by unanimous consent (Garst/Hedquist) at 16:30 hours, Oct 27, 2015.