

WG21 pre-San Diego telecon minutes

ISO/IEC JTC1 SC22 WG21 N4784 — 2018-10-28

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Convener: Herb Sutter
SC22/WG21 pre-meeting telecon
Friday 2018-10-26
08:00 N.Am. Pacific Time

1 Opening and introductions

1.1 Roll call of participants

- Herb Sutter
- Ville Voutilainen
- Walter Brown
- Chandler Carruth
- Detlef Vollmann
- Hubert Tong
- Jens Mauer
- Tom Honermann
- John Spicer
- Roger Orr
- Lawrence Crowl
- Marshall Clow
- Bryce Adelstein Lelbach
- Barry Hedquist
- Gabriel Dos Reis
- JF Bastien
- Bjarne Stroustrup
- Michael Wong
- Michal Dominiak
- Olivier Giroux

- J Daniel Garcia
- Nina Ranns
- Louis Dionne

1.2 Adopt agenda

Herb Sutter : Agenda has been amended to add SG13, SG17, and SG18 to the draft agenda under 2.2.1. Any objections to adopting the agenda with these amendments ?

No discussion.

No objections to adopting the agenda.

Agenda approved.

1.3 Approve minutes from previous meeting (deferred to face- to-face meeting)

1.4 Review action items from previous meeting (deferred to face-to-face meeting)

1.5 Review of project editor and liaison assignments

- <http://isocpp.org/std/status>

Any changes ?

None.

2. Status, liaison and action item reports

2.1 Subgroup status reports (CWG, EWG, LWG, LEWG)

2.1.1 CWG , Mike Miller

Herb reads out the report from Mike Miller's email.

CWG has had one teleconference for issues processing since Rapperswil and will try to prioritize some time during the meeting to catch up on our backlog of issues. We have nine papers that are currently ready for review, with a number of others in various earlier stages; these are listed on the San Diego wiki, thanks to Jens. We will discuss possible ways of improving our review process to make it more efficient; in the meantime, we continue to encourage authors of papers coming to CWG for review to seek out a CWG person to work with them to get the wording roughly into shape before it comes before the whole group for review.

2.1.2 EWG, Ville Voutilainen

Ville presents.

EWG priority is as usual. We will be focusing on contracts and co-routines. There are some aspirations to adopt modules into C++20. We have over 50 papers on the EWG agenda and 40 papers on the SG17 agenda, it will be a busy week. We will look at tweaks to major feature and smaller fixes to existing facilities. Mostly in C++20 finishing mode at this meeting, and at the next one. Evolution agenda can be found on the San Diego wiki page.

Herb: this is the last meeting for C++20 proposals we have not seen yet. We will try and enforce that rule vigorously. This is also the last meeting for EWG to approve C++20 features that need library response. Do we know of any like that which are still trying to get into C++20 ?

Ville: yes, class template argument deductions papers.

Marshall: There is a paper from M. Spertus. P1021.

Herb: if the library can be broken in some way, that is also intended to be covered by this rule.

Gaby: LWG module changes are targeted for Kona, not San Diego.

Herb: we want EWG to approve modules at this meeting.

Gaby: correct, that is why library part is delayed for Kona.

Herb: are there any more that are in this bucket ?

Ville: co-routines, potentially, if we want to make the feature useful.

Chandler: changes to the library are significant for co-routines if we want to make it a useful feature to users.

Michal: Short float has some changes to the library.

2.1.3 LWG, Marshall Clow

Marshall presents.

LWG met in Batavia in August. LWG spent one week looking at papers and marked several as tentatively ready. You can find the report in P0985R2.

Preliminary task list is on the San Diego wiki. There are several duplications there. The task list was made from four sources: papers that LEWG have passed to LWG, papers addressed to LWG from previous meetings, papers addressed to LWG from the post-Rapperswil meeting, papers addressed to LWG from the pre-San Diego mailing.

LWG will start on Monday with Ranges, then split into small groups to do the preliminary review of the papers LWG haven't seen before. After that LWG will do the final review of updated papers.

LWG plans to have two evening sessions, one will be an issue processing session and the other will discuss the signedness of span (P1089).

Preliminary schedule will be up by end of day Monday.

There is a large list of papers to discuss, so there will probably be no work done on the TSs.

JF: Please consider looking at Library Fundamentals TS.

Herb: Will you chair the session on span ?

Marshall: I am one of the authors.

Herb volunteers Titus to chair the evening session.

Chandler: I believe Titus will have a strong opinion on this topic.

Ville: I volunteer, but I also have a strong opinion.

Herb : I would like to pick someone who doesn't have a strong opinion.

Bryce volunteers.

2.1.4 LEWG, Titus Winters

Herb: Tentative agenda is on lib-ex reflector.

Bryce: There are 131 LEWG papers. Major themes are ranges, concepts, spaceship operator and comparisons in general. There is a number of papers aimed at executors TS and networking TS, advancing the networking TS without the executors, span regularity and signedness, and others. LEWG will probably not get through them all, 40 or 50 will be directed to LEWG incubator. About 70 papers are C++20 targeted.

Ville : previous discussion about regularity of span raised NB concerns. There are details on the LEWG reflector.

Walter: maybe we should coordinate the EWG session on the spaceship operator with LEWG.

Bryce: I shall mention this to Titus. I believe SG1 and LEWG are planning on having a joined session on executors.

Olivier: that is correct.

Ville: spaceship operator and comparison is scheduled for Thursday morning in EWG.

2.2 Liaison reports

2.2.1 Study Group reports

Reports from the following active SGs:

SG1, Concurrency: Olivier Giroux

Olivier presents. SG1 had an extra meeting in Bellevue for 2 days where they talked about executors. The group decided to adopt the direction proposed by Facebook. That proposal needs more work before it is ready to ship so it will not be ready for C++20.

The group discussed even more minimal executors, P0443 paper minus anything modified by the Facebook proposal. A poll indicated such new modified executors paper is desired for C++20.

The group also discussed jthread, but was not comfortable with certain parts of the proposal. The group decided to cut down the proposal.

SG1 will meet for the whole week in San Diego. There will be a joint session with LEWG on executors.

Bryce: is synchronisation library going through SG1 ?

Olivier: it's out of SG1 hands now.

SG5, Transactional memory: Michael Wong

Michael presents. SG5 is meeting every 2 weeks. Currently discussing a light transactional memory proposal which is progressing through SG5 and certain external bodies.

SG6, Numerics: Lawrence Crowl

Lawrence presents. There are 4 papers to look at, the tentative agenda is on numerics wiki page.

Michal: do you expect to forward anything to other groups ?

Lawrence: no expectation at this moment. We will probably meet for a full day.

Jens suggests days.

Herb presents room schedule.

Lawrence: later in the week would work.

JF: there are a few things that may need to be discussed early in the week.

Lawrence: we do not plan on making big changes.

Herb schedules Monday afternoon for SG6.

Jens: there is an option to have more discussion on Friday, if needed.

Lawrence: if anyone has an opinion on the SG6 schedule, please send me a note.

SG7, Compile-time programming: Chandler Carruth

Chandler presents. There are currently two competing papers: mp11 paper and a second paper exploring constexpr facilities. Mp11 paper was heard by SG7 and the later paper is a direct request as a result of that discussion. Joint session with other groups is likely necessary to settle out a direction, maybe Friday morning first thing.

Ville: Saturday may be better for EWG. We can do it after the plenary.

Herb: I think we need this discussion. How about Friday afternoon ?

Marshall: I will poll people in LWG to see how much interest there is to participate in this discussion.

Bjarne: I think this is very important for C++23, I would like to be in this discussion.

Herb: It would seem we need SG7, library groups, and EWG.

Ville : let's make it an evening session on Monday, but defer the decision to a day session.

Chandler: I'm worried about splitting the discussion, would like to schedule it after C++20 work. Let's discuss a time for the discussion off line.

Hubert : is library going to look at metaprogramming facilities papers in San Diego?

Bryce/Marshall : we do not plan to do so.

Chandler continues. SG7 expects a half a day of session to work on design feedback for chosen direction. There is a confusion between LEWG and SG7 where type traits should be discussed. Chandler will write paper to give some guidance as the chair and would like to discuss that paper with LEWG.

SG12, Undefined and unspecified behavior: Gabriel Dos Reis

Gaby present. SG12 met with WG23 for 2 days in the last few meeting. SG12 plans to have SG12 only meeting for one day, looking at one paper, then have a group session with WG23.

Hubert : SG12 has forwarded an expected R3 of P05392 with a one-bullet change to EWG. It is not on the schedule.

Gaby: I will check what happened to it. It is intended for C++20.

Ville : do you plan to have a discussion on contracts and undefined behaviours ?

Gaby : we can have a joint session with EWG.

SG13, 2D graphics: Roger Orr:

Roger present. Planning on meeting for half a day. Guy will participate virtually. It will be an introduction session to get feedback on the topic. SG13 will be meeting on Thursday morning.

JF: you probably need an additional meeting to get more graphics people.

Bryce: there is an std:webview paper that is a response to P0267, are you planning to look at that ?

Roger: yes, I'm hoping the author will be there.

SG14, Low latency: Michael Wong

Michael presents. SG14 met during cppcon, 50 people were present. SG 14 discussed 4 papers. Topics were trivially relocatable, a paper on intrusive pointers, and standardisation of linear algebra. Micheal is unsure if there will be SG14 meeting in San Diego.

Bryce : I would like Guy to participate in any discussions in San Diego. I will coordinate with him.

Michael continues. SG14 is looking at embedded programming and under-specified behaviour in the language, proposal targeted to Library and language side. SG14 continues to meet monthly. There is a discussion about a proposal for standard template library aimed at games programming. If SG14 meets in San Diego, it will only discuss linear algebra.

Lawrence : we don't want to introduce facilities that are too specific to an application domain. We should make it applicable to general domains.

Bryce/Michael : agree.

SG15, Tooling: Titus Winters

No discussion

SG16, Unicode: Tom Honermann

Tom present. SG16 met 4 time since Rapperswil. The summary is in P1237R0. There is a direction paper to discuss in San Diego, P1238. There are several papers in the queue for EWG, and some in the queue for LWG. SG16 will meet for half a day in San Diego. They will look at 3 papers to look and then break into small groups.

Wiki has been updated with a list of things to discuss.

SG17 EWG incubator: JF Bastien

JF presents. SG17 received a list of papers from Ville. There are 60 papers, SG17 won't get through all of them. SG17 plans to send high quality papers to EWG, merge papers that are related, and not advance the papers that shouldn't be advanced. SG17 will give guidance to authors to come back with improved papers. JF would like to spend time on pattern matching.

Bjarne : we have to be careful not to overwhelm the community with changes. Lots of good ideas, but we can not absorb all of them. We need to find a way of putting on a brakes a little bit. There's always follow up corrections based on what we learn.

JF continues. SG17 will not decide the shipping vehicle, we will let EWG decide that. We just want to get papers in a better shape when they go to EWG. JF is considering having telephone conferences between meetings.

SG18 LEWG incubator: Bryce Adelstein Lelbach

Bryce presents. There are 131 papers that are aimed at LEWG, 60-80 will end up on LEWG incubator agenda. SG18 will not get through them all in one meeting. Library group gets a lot of small papers and little tweaks. Also, there are more newcomers in library groups. SG18 group would be a good place for new members to see how a committee work. Bryce will assume the people in SG18 will not know the process so there will be some time spent to explain how the process works.

SG18 will provide authors with feedback on how to write papers.

SG18 plans to ask :

Does this paper fit in the line with the goals of the committee ?

Do we want to spend more committee time on this paper even if it is a good idea?

Not all papers should go through LEWGI, only if directed so by Library chair.

2.2.2 SC22 report

Herb Sutter presents. Nothing to share. We are keeping an eye on what is going in SC22.

2.2.3 SC22/WG14 (C) report

Herb Sutter presents. SC22/WG14 met last week. One of the proposals they discussed is P1095R0/N2289. It looks like C committee is interested in exploring returning codes and lightweight exceptions.

3. New business

3.1 Review of priorities and target dates

Herb presents a slide showing the number of papers and participants at each meeting. The numbers of papers and participants has been growing. We hope the incubator groups will help train the committee and provide focus.

• <http://isocpp.org/std/status> • P1000

3.2 Review of current mailings

No discussion.

3.3 Any other business

Tom asks if Zoom can be used for subgroups meetings ?
Herb thinks it should be possible.

Herb will ask new attendees for motivation on why they have decided to attend the meeting to see where the interest comes from.

Bryce would like to see officers and subgroup chairs introduce themselves in the plenary.

4. Review

4.1 Review and approve resolutions and issues

No discussion.

4.2 Review action items

No discussion.

5. Closing process

5.1 Establish next agenda

Herb proposes the same agenda, with the added SG reports.
No objections to the proposed agenda.

5.2 Future meetings (deferred to face-to-face meeting)

Herb Sutter notes that we will do this on Monday in San Diego as there are more people present on Monday than on Saturday. The hosts of upcoming European meetings are curious about the number of possible participants and we are likely to get more accurate number if we poll on Monday.

5.3 Future mailings (deferred to face-to-face meeting)

5.4 Adjourn

Meeting adjourned at 10:13 N.Am. Pacific Time.