

WG21 2024-06 Admin telecon minutes

ISO/IEC JTC1 SC22 WG21 N4984 — 2024-06-17

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SC22/WG21 pre-meeting telecon

Convener: Herb Sutter

Dates: Monday 2024-06-10

Time: 08:00 N.Am. Pacific Time (San Francisco)

1 Opening and introductions

Herb Sutter opens the meeting at 08:04 N.Am. Pacific Time

1.1 Roll call of participants

Herb Sutter

Michael Wong

Billy Baker

John Spicer

Roger Orr

Ben Craig

Jeff Garland

Nina Dinka Ranns

Jonathan Müller

Fabio Fracassi

Hans Boehm

Bjarne Stroustrup

Jens Maurer

Daisy Hollman

Jonathan Wakely

Nevin Liber

Hubert Tong

Tom Honermann

Hana Dusíková

Detlef Vollmann

Jeff Snyder

Inbal Levi

1.2 Adopt agenda

No objections.

Agenda adopted

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

[Status page](#)

Status page is up to date.

2. Status reports

2.0 Advisory subgroup status reports

- **AG**, Admin group: Nevin Liber

We have had two mailings since the Tokyo meeting. At the request of EWG and LEWG, the pre-St. Louis mailing was delayed a week. The next mailing is the post-St. Louis mailing on July 16th.

John Spicer : the use of wg21 link papers as references is problematic, especially if there is another revision number. We automatically refer to the latest revision, even though we may not want that.

Herb Sutter: we are working on getting a new wiki in place that has per user accounts.

- **DG**, Direction group: Howard Hinnant

We carry on meeting every 2 weeks. We were asked for input on TS for Contracts. We produced P4000 derived from a presentation we put together. We updated it to have a general guidance on what to keep in mind when considering a TS. We gave no specific recommendations for Contracts because we didn't see a specific list of questions Contracts TS should answer.

John Spicer : Michael Wong gave a very helpful presentation at the SG21 telecon where he clarified the points in the P4000 paper. Thank you to Michael and the DG group for input to the process.

- **ARG**, ABI review group: Daveed Vandevoorde, Jason Merrill

ARG will not meet in St. Louis (ARG doesn't really "meet" but welcomes ABI-related inquiries by e-mail).

2.1 Pipeline stage 1 groups: Specialist subgroup status reports (Sgs)

SGs 2, 3, 5, 8, 11, 12, and 13 are currently dormant and handled in the main subgroups. The active SGs are:

- **SG1**, Concurrency: Olivier Giroux, Hans Boehm

SG1 will meet most of the week, probably not Friday.

- **SG4**, Networking: Jeff Snyder, Gašper Ažman

We have no ready papers at the moment, so we are not planning on meeting in St Louis

- **SG6**, Numerics: Matthias Kretz, Lisa Lippincott, John McFarlane

SG6 will meet on Monday after plenary. There are 8 papers in our inbox, some of them relatively large. It is highly unlikely that Monday is enough to process them all. With P3045 "Quantities and units library", P2964 "Allowing user-defined types in std::simd", and P2993 "Constrained Numbers" (which needs a new revision) we are looking at user-defined numeric types (in a broader sense, at least) that should compose and interact. SG6 needs to understand the requirements going into these designs to inform design review in LEWG — in some meeting(s).

- **SG7**, Compile-time programming: Hana Dusíková, Daveed Vandevoorde

Hana Dusíková reporting. SG7 will meet in STL, we have 8 papers to see, so we need the whole day. I put into requirements I need Tuesday so we will have overlap with Contracts discussion (on basis there is not significant personal overlap between topics).

I will also chair EWGI (SG17) with James Touton and we will meet in person in STL and we have 10 papers to see. Requirement is to not have conflict with SG7.

Rest of week I will be co-chairing EWG with JF. We have 40 papers scheduled (not counting Contracts Tuesday) and 17 issues to process. We have a few major topics: contracts, trivial relocatability, and on Friday we will have policies discussions (so bring popcorn).

- **SG9**, Ranges : Daisy Hollman, Jonathan Müller

Daisy Hollman reporting : SG9 will probably meet in St. Louis. Due to recent events, I cannot be there in person, but with my vice chairs' help and with me attending virtually, we hope to meet for somewhere between one and two days.

Jens Maurer: there is no room request for SG9. There are none left. Numerics were uncertain, so there is possibly one left.

Herb Sutter : when we had more subgroups wanting more time than rooms we scheduled subgroups in the evening.

John Spicer : you can consider other options like the lobby or the restaurant.

Daisy Hollman : considering I am not going to be there in person, it might make sense to have a telecon.

- **SG10**, Feature test: Barry Revzin, Jonathan Wakely

Jonathan Wakely reporting. Barry plans to update SD6 standing document before St Louis.

- **SG14**, Low latency: Michael Wong + **SG19**, Machine learning: Michael Wong, Vincent Reverdy

SG14 will meet at CPPCON as usual. SG19 will meet in St. Louis for one morning or afternoon, if we have the authors present and will discuss the following papers which have been developing in SG19 for 5-6 years

- **SG15**, Tooling: Michael Spencer, Ben Boeckel

No report.

- **SG16**, Unicode: Tom Honermann, Steve Downey

SG16 will not meet in St. Louis. Inbal and I are considering a joint LEWG+SG16 meeting to discuss some design aspects of the reflections proposal but details have not been worked out yet. There are a couple of other issues we could discuss if we do host a joint meeting as well.

We have recently been talking about integration of `charN_t` types with `std::format` and `iostreams`. If you are interested, please reach out to us.

SG16 will continue its twice monthly virtual meeting cadence.

- **SG17**, EWG incubator: Erich Keane, Hana Dusíková, James Touton

Hana Dusíková : Erich will not be in St Louis. I will be chairing the group with James. We have two afternoons, on Tuesday and Friday.

- **SG18**, LEWG incubator: Billy Baker, Nevin Liber

LEWGI will meet in St Louis. We have more of the quantities and units paper to review.

- **SG20**, Education: JC van Winkel

SG20 (education) will not meet in St. Louis. We keep meeting regularly, especially in smaller groups working on topics for <https://cplusplus.github.io/SG20/latest/>

- **SG21**, Contracts: John Spicer, Timur Doumler

SG21 (Contracts) is planning to meet in St. Louis all day Wednesday + Thursday. We have a bunch of papers in the pipeline but what exactly we'll be looking at depends on the result of the EWG session about Contracts which is scheduled in St. Louis for Monday/Tuesday.

You don't need to keep up with Mattermost and reflector to keep up with Contracts. Our business takes place in our meetings. We take minutes and polls. Please check the wiki for the most up to date status.

- **SG22**, C/C++ liaison: Nina Ranns, JeanHeyd Meneide

We will not meet in St Louis. We have not had any telecons since Tokyo. There have been discussions happening on the reflector. We will try and schedule telecons on outstanding topics according to the author's availability.

- **SG23**, Safety and Security: Roger Orr, Ben Craig

SG23 met on 2024-05-20 to look at P3285R0, Gabriel Dos Reis's paper on safety and contracts, with a view to informing SG21 and EWG's discussion about contracts.

There was a weak consensus against encouraging more work in this direction, and consensus that P2900 treatment of undefined behaviour inside contract predicates is adequate for progress towards publication.

SG23 plans to meet in St Louis for up to one day.

2.2 Pipeline stage 2 groups: Design subgroup status reports

- **EWG**, Core evolution: JF Bastien, Erich Keane, Hana Dusíková

EWG will be meeting in St Louis for the entire week.

Monday: after plenary will be for issue processing, afternoon contracts.

Tuesday: contracts.

Wednesday: potential C++26 papers, and smaller papers.

Thursday: features.

Friday: start with trivial relocatability to consider the new information that has been received, then see papers that we didn't get to, and finally policy discussion.

It is likely that we will not see all papers in front of us, we will therefore need to be mindful of time.

The contracts discussion aims to understand which issues are still contentious, and then use this information to determine a shipping vehicle.

The current agenda is available on the wiki:

<https://wiki.edg.com/bin/view/Wg21stlouis2024/EvolutionWorkingGroup>

Herb Sutter : We are coming up to paper freeze, which is three meetings from now. We still have time to address concerns. We can provide feedback on what needs attention in order to meet the C++26 deadline.

- **LEWG**, Library evolution: Inbal Levi, Fabio Fracassi, Ben Craig

LEWG will meet during the whole week. The major topics to be reviewed are:

- Monday: S/R, fixes, DRs
- Tuesday: Policies, status_code, and standard error object
- Wednesday: S/R, Reflection
- Thursday: Concurrent Queues, Reflection, exception throwing in constant-evaluation
- Friday: Issues from LWG, Overflow topics (few of LEWG (co)chairs will attend "relocatability" session, to avoid miscommunication)

LEWG policies in St. Louis: we will discuss `explicit` CTORs policy and a paper for applying our existing "nodiscard" policy:

<https://github.com/cplusplus/LEWG/wiki/LEWG-Policies>

Our full schedule is available here (and, of course, linked from our Wiki page:
<https://wiki.edg.com/bin/view/Wg21stlouis2024/LibraryEvolutionWorkingGroup>):
<https://github.com/orgs/cplusplus/projects/27/views/1>

As can be seen in our Telecons schedule, additional post-St. Louis telecon sessions will be dedicated for:

Relocatability, Reflection, and (depends on the decision for IS/TS) Contracts:
<https://github.com/cplusplus/LEWG/wiki/2024-Telecons>

See you all soon! :)

2.3 Pipeline stage 3 groups: Wording subgroup status reports

- **CWG**, Core wording: Jens Maurer

CWG will be meeting all week, processing papers according to the following rough schedule:

<https://wiki.edg.com/bin/view/Wg21stlouis2024/CoreWorkingGroup>

Also, we'll ready up issues as time permits.

We had telecons every two weeks and we have been processing issues. We have 30 or so pre processed issues when we come to St Louis.

- **LWG**, Library wording: Jonathan Wakely, Jeff Garland, Dietmar Kühl

LWG has been holding 90 minute telecons most weeks, although we've stopped that now in the run up to St Louis. We've been reviewing P2300 (std::execution) every telecon, and will continue to review that in St Louis. There are some other topics in the LWG agenda for St Louis, Jeff will be preparing the schedule. As for the last few meetings, I'll be remote for St Louis. We're lagging behind in issue processing, so need to spend some time on that soon.

We won't be able to process everything we need for C++26. There will be disappointment. We are spending a lot of time on execution, we have SIMD coming up, and there's the usual set of small feature papers.

Herb Sutter : We should have LEWG take polls on the priority.

Fabio Fracassi : We have stopped doing that because LWG had no backlog. We will start doing that again.

John Spicer : It will be helpful to find a way to encourage more people to contribute to LWG and CWG.

Ben Craig : There was room for improvement on how to do prioritization of papers. I'll work the chairs to find a better way forward. It's hard to do polling when it is not yay/nay, but an order of priorities.

Jeff Garland : We lost some people on telecons, we need additional people to come to LWG. We're barely getting quorum. The regulars burn out.

Inbal Levi : We had a way of prioritizing that I thought worked well, but we can improve it if we have ideas on how to do that.

2.4 SC22 report

It's painful that we haven't published C++23, or started the DTS comment ballot for Concurrency TS2. ISO's editing requirements have been extremely slow and burdensome in the last few years, and this has affected many groups in SC 22 and across JTC 1, and JTC 1 is working on addressing the problems.

JTC 1 has also created a group to discuss succession planning. We already have experience in having vice chairs, and we have the US NB chair doing the role of a vice convener. This is making such roles more formal.

Jens Maurer : Can we have an update on C++23 from the project editor for Monday's plenary ?

2.5 SC22/WG14 (C) report (covered in 2.1 / SG22)

3. New business

3.1 Review of priorities and target dates

- [Status page](#)
- [P1000](#)

The cut off for LEWG and EWG is February. The Sofia meeting, probably in June, is the last meeting when we can merge a new feature into the standard. We should be letting authors know what they need to do if they want their feature in C++26.

3.2 Any other business

4.1 Review and approve resolutions and issues

4.2 Review action items

Herb Sutter to update the agenda with three additional assistant chairs.

Herb Sutter to get an update on C++23 from the project editor for Monday's plenary.

Nina Ranns to check with SG chairs about the missing SG reports.

5. Closing process

5.1 Establish next agenda

Herb Sutter : I propose the same agenda with appropriate minor tweaks. Any objections ?
No objections

5.2 Future meetings (deferred to full meeting)

5.3 Future mailings (deferred to full meeting)

5.4 Adjourn

Meeting adjourned at 09:07 N.Am. Pacific Time