

Document number: N3767
Date: 2013-09-13
Reply to: Kyle Kloepper (Kyle.Kloepper@riverbed.com)

Teleconference Minutes (September 2013)

WG21 Teleconference 2013-09-13

1 Opening and introductions

Sutter calls the meeting to order at 15:10 UTC.

1.1 Roll call of participants

Heads of delegation designated with *.

Affiliation	Representative
Canada	Michael Wong*
Canada	Stefanus Du Toit
Finland	Ville Voutilainen*
Netherlands	JC van Winkel*
Spain	J. Daniel Garcia*
Switzerland	Detlef Vollmann*
United States	Alisdair Meredith
United States	Barry Hedquist*
United States	Beman Dawes
United States	Billy Baker
United States	Gabriel Dos Reis
United States	Hans Boehm
United States	Herb Sutter
United States	Jeffrey Yasskin
United States	Kyle Kloepper
United States	Lawrence Crowl
United States	Marshall Clow
United States	Nevin Liber
United States	Stephen Clamage
United States	Thomas Plum
United States	William Miller

1.2 Adopt agenda

N3705 adopted by acclamation.

Discussion of how to handle digit separator comments in the meeting will be covered in section 3.3.

1.3 Approve minutes from previous meeting

N3621 approved by acclamation.

1.4 Review action items from previous meeting

There were no previous action items to review.

1.5 Review of project editor and liaison assignments

Sutter mentions that WG23 would still like to hear from WG21.

There are no changes to project editor or liaison assignments.

2 Status, liaison and action item reports

2.1 Small group status reports

Core working group (CWG):

Mike Miller reporting. CWG had two drafting review teleconferences since Bristol. Approved about 20 issue resolutions listed as tentatively ready. New issues list since Bristol. Run rate for new issues due to C++11 was discussed at last meeting. There are 85 issues since Bristol. 21 of them have to do with C++14. There are 64 issues with existing C++11 verbiage. It is encouraging that we are reducing the number of existing defects.

Core will be looking at NB comments in Chicago. More than half of NB comments have to do with core. 115 NB comments in list Hedquist distributed. 66 are Core, 42 are Library, and 4 are editorial, and 3 general comments.

Meredith asks how comfortable Miller feels about doing ballot resolution in one or two meetings. Miller does not see anything that would prevent it. Load is smaller than seen in previous CDs.

In second teleconference looked at paper for the deprecated attribute. There is a paper in pre-meeting mailing that updates wording.

There are 85 NB comments in N3733. Sutter said Canada has late comments and we will make sure they are addressed also.

CD and DIS for C++11 had more than 500 comments. Thanks to everyone for comments and the quality of the current draft.

Every NB comment must be responded to. Ballot resolution is to address comments and improve consensus. Bug fixes and feature tweaks can be added, but no major new features. Key thing is to increase consensus. NBs are required to be at the ballot resolution meeting. Sutter's hope is that with this light of comment volume, we may get tentative responses to all comments by the end of Chicago. How does that sound to Miller? Miller says that they will know which will be rejected and which will be accepted. Will not have drafting for all comments by end of Chicago. NBs will be in good shape to know if comments are accepted, rejected, or changed.

Meredith says that library is in similar position. If they don't have final wording, but will know which way each issue is going.

Library working group (LWG):

Meredith reports that there are 180 active issues. 80 new issues and 40 NB comments. A few editorial, a few asking for constexpr. Clow adds that he has an entire paper on constexpr defects report.

Many comments on optional and dynarray. Optional was voted in an incomplete state to draw NB comments. Library must do something with that.

Yasskin points out there are papers on optional.

Sutter indicates that design is the responsibility of EWG and LEWG. If the design or way interface is used is being changed then the evolution group should be involved.

Sutter remembers some comments that runtime sized array and dynarray are related. There reflector comments about if we remove one the other should be removed. Those should be talked about together.

Meredith has tried to implement them and there is nothing practical linking them, but they are conceptually linked. Sutter asks if both come through Evolution, or did dynarray come through Library Evolution. Meredith says that it came through as too late in C++11 and through LEWG in Bristol. Have looked at wording and deemed mostly good.

Crowl says that dynarray started in LWG before LEWG existed.

Voutilainen says that EWG briefly glanced at it in Portland but not in any detail.

[Evolution working group \(EWG\):](#)

Sutter says that Stroustrup was not able to attend meeting, but Voutilainen has issues list.

Voutilainen reports very small amount of new issues. Can count them with fingers on one hand. There are several issues and paper that are targeting C++14.

[Library Evolution working group \(LEWG\):](#)

Yasskin reports that there are many papers that say LWG in mailing that should come to LEWG. In Chicago, will mostly focus on next standard. Not many issues that LEWG should look at for C++14.

Sutter asks is focus is still on a Library TS. Yasskin says yes and views that as part of the next standard. Want to create a proposal for that, but not sure exactly what the wording will be. There are three TS that are ready (Networking, File Systems, and TS2). Will create them in Chicago.

Meredith says that Dawes has provided wording to be used as File Systems TS. Dawes says that his intent is that we should approve a motion for N3693 as the working paper for File System TS. Currently paper lists namespace as TBD, which needs to be adjusted.

Sutter talks about TS procedure. There are three current ones: Networking, Fundamentals, and Concepts. For Chicago, with the ones we already asked for, in agenda item 1.7 we should have editors report and approval of draft for all other drafts. Will do that routinely. Papers in meeting become deltas to that paper. Clamage is in agreement.

Yasskin states that TS2 and concurrency does not have working paper. Is the correct thing to do nominate papers to collate into single working paper by editor. Sutter says that anything we want to approve has an N-number in pre-meeting mailing. The other step is to get official project number from SC22. Yasskin clarifies that a straw poll in LEWG would decide if a collection of paper should be brought to full committee to get a document number.

Meredith asks at what point does LWG get involved. Sutter says that evolution picks vehicle (TS or part of standard). Before any draft comes forward then Core or Library should be involved. All drafts should go through Core or Library. Yasskin is concerned that will delay creation of working paper by a meeting.

Meredith says that generally it is easier to fix wording before it hits a working paper. Yasskin says that is true for existing working papers.

Sutter says that LEWG decides if there should be a bucket open.

Kloepper clarifies that a fundamentals TS could be opened without a working draft. Then papers can be voted into that.

Sutter says that that is asking for a project number. No one expects standardese. Creating empty bucket with a project number. Meredith would like to see working draft before creating bucket. Sutter says that if you take a look at new work item proposals, they do include a one paragraph proposal.

Kloepper asks if EWG and LEWG brings a motion forward to full committee to create a new project number directly with a straw poll and not going through CWG or LWG.

Sutter says once you get to wording then CWG or LWG needs to be involved.

Dawes asks about string view. It has pretty much been beaten to death. Yasskin adds that even Daniel has looked it over.

Sutter says that technical work should never wait for procedure. He will work so that procedure stays ahead by a meeting. So in string view case, you might be able to have a post-Chicago paper that would be ready for fundamentals. Make sure to have LEWG ask for a fundamentals work item.

Meredith is voicing caution. Concerned that LEWG can turn full proposal to LWG and expect that it will turn around wording in the same meeting. Yasskin says that string view was voted out of LEWG to LWG in Bristol.

Sutter says that it is gated on LWG accepting the drafting. For a proposal, you don't have to be that specific. Can choose shipping vehicle after wording is approved. Yasskin says it is difficult to write a paper that could go into either. Dawes agrees and says that in practice, when working on a paper, it is important to know if you are heading for TS or Standard. Sutter adds we can have a working draft without project.

Meredith asks which other papers should LWG consider. Yasskin says that Any may have that position. Dawes says he did not get it into pre-meeting mailing.

Liber asks about Clow's constexpr paper. Yasskin says that it sounds like LWG paper.

Kloepper reminds Meredith that the post-Bristol mailing contained the working paper for Networking TS (N3646).

Study group 1 – Concurrency (SG1):

Boehm reports the minutes on wiki summarize plan for TS in not too distant future. Plan to split time between C++14 issues and forward looking issues. Have about 10 NB comments to be handled in SG1.

There is a new issue in N3710 that may or may not be considered at meeting. Miller asks for an email to say which NB comments should be handled by SG1 instead of CWG. Boehm directs Miller to the wiki.

Study group 2 – Modules (SG2):

Sutter reports Gregor is not present. Still working on implementation in Clang. Crowl has not seen any discussion on reflector. What is happening is a small number of folks working on it without a lot of public feedback. Clow says they are working on an implementation to point at what works and what does not work.

Study group 3 – File System (SG3):

Status discussed in LEWG report.

Study group 4 – Networking (SG4):

Kloepper reports there is one paper with wording on URI to discuss at meeting. There is a monthly teleconference that will resume in October. Meredith asks about IP address wording paper. Kloepper replies that there was consensus on a design direction at Bristol but no concrete paper yet.

Study group 5 – Transactional Memory (SG5):

Wong reports that there is a proposed TS (N3718). Wants review by EWG.

Sutter asks if this will be a joint SG1, EWG, and SG5 meeting. Mike and Hans agree.

Study group 6 – Numerics (SG6):

Crowl does not have much on agenda. There was a paper to merge in special functions standard into standard. There is a NB comment that is concerned about possibility special functions are conditionally supported in standard (US national body comment 20). ISO/SEC 29124. In Bristol this was deferred to Numerics TS. Not sure it is even possible to fold a standard into a TS. Crowl is concerned that SG6 can do anything with this on it's own. Need to go up before whole committee. Follow-up paper is N3743. SG6 can do a quick pass and then put on agenda for end of week meeting.

Sutter says that in the title of N3743 says for C++14. Do not see how this is possible for C++14 as it would not increase consensus. Would think about putting it in C++17 vs TS, is that what you meant? Crowl, yes I meant that it should be for C++17. Sutter says that US 20 comment says that it should be target for C++14.

Sutter says there is a NB comment and paper to add new features to C++14, features from an existing standard. Generally we don't add major new features to between the CD and DIS. Numerics would have to approve it. Then go to LEWG for approval. LWG then would have to put a motion forward to full committee for change to working paper. LWG presents changes to library clauses in working paper.

Crowl says that in Brown's defense the paper is not new. The Numerics committee decided it would make more sense that it would be better in TS. It is weird that a standard would go in TS. Sutter says that it may feel administratively weird, but we can do that. Bring that to LEWG and they will decide if that makes sense as a target. For C++14 the door closed in Bristol for new features. And for major feature it can be brought forth for the next standard. It does not matter there was an earlier paper, it matters if paper was voted into working draft in Bristol. Numerics needs to decide which track it should be on (TS or standard after C++14) and then bring that to LEWG.

Sutter suggests having join SG6/LEWG session to discuss US 20. Crowl agrees. Yasskin says that is easy to schedule.

Meredith asks SG6 to take clause 26 issues in Chicago. Crowl says yes.

Study group 7 – Reflection (SG7):

Sutter says Carruth is not on call. Sutter does not know of any progress and asks if any wants to comment. There is no comment.

Study group 8 – Concepts (SG8):

Dos Reis reports there is a draft for TS, but the pre-meeting mailing deadline was missed.

Study group 9 – Ranges (SG9):

Clow has nothing to report. Meredith asks about N3763 being moved to LWG. Is that for TS, 14, or 17? Yasskin says that is not for C++14.

Yasskin asks about if a paper that modifies existing standard wording can go into a TS. He has heard concerns voiced by others that is not possible.

Sutter says that there is no administrative issue with that; however, LEWG and LWG can decide that there are technical reasons not to do that. Unless you take a version of that and put into another namespace. For example, what would you like to change? Yasskin does not have an opinion on that. Sutter says that if you stick it in another namespace there should be no technical objection. Meredith says that if it is for TS it needs to be addressed for Chicago.

Sutter says that Chicago is not last meeting for discussing what is in library TS. Meredith wants to defer traversable arguments. Yasskin says if you don't consider traversable arguments in Chicago you will not hold up TS. The TS will ship with what is ready.

Sutter asks if having a November or December teleconference on this would be helpful for making progress.

Study group 10 – Feature Test (SG10):

Sutter reports Nelson is not on call. Paper is in pre-meeting mailing. There is not going to be any motion or change proposed. Intended to be a set of non-binding recommendations with gentleman's agreement that is how it will be used. Reading the first section of N3754 clarifies intent.

Study group 11 – Databases (SG11):

Sutter reports that Seymour is not on call and study group is still being formed.

Study group 12 – Undefined and Unspecified Behavior (SG12):

Dos Reis reports there is much discussion, but not a lot of papers. N3751 is in mailing. Would like to have SG12 meeting in Chicago and put forth resolution by next meeting. Richard Smith went through standard and lists all places where behavior is undefined.

2.2 Liaison reports

2.2.1 SC22 report

Sutter says annual plenary is next week in Tokyo. Most interesting thing are the three ballots. CD ballot came through. Networking TS and Concepts TS both succeeded.

2.2.2 SC22/WG14 (C) report

Plum says that there is nothing to share as liaison. Sutter says that at Delft meeting a study group on concurrency and parallelism was started. Plum says there is more interest to have C++ liaisons.

3 New business

3.1 Review of priorities and target dates

Priority at Chicago meeting is to improve consensus and respond to all NB comments.

3.2 Review of current mailings

Sutter says that if you see anything that is incorrectly categorized that they should work to get that corrected.

Boehm does not know how to write TS changes that modify core wording. Sutter says point to a standard and say change this paragraph as follows. Applies to library as well (like if container requirements are changed). Does that address some of what you are talking about? Boehm says yes, so long as we can put deltas in TS. Sutter says to look at C++CLI and TR1.

3.3 Any other business

Sutter brings us back to digit separators issue. Miller says CWG is responsible for NB comments for clause 1-16; this is clause 2. One possibility is this is tossed back to EWG. Another is that CWG comes up with proposal. Another is that an evening session to get folks outside of EWG to participate.

Sutter says that general guidance is that NB comments and Issues that affect design need to go to evolution first. Then anything that affects wording goes to core. In this case it should go to EWG and if there is broad interest and see if there is interest in having evening or joint meeting.

This is right on the border of being a new feature. Anything we do in a ballot resolution meeting must improve consensus. Want to make sure that we do not change things unexpectedly. Digit separators did not go before as we were lacking consensus on specific design. There would need to be specific design that is consensus to move forward.

Meredith says that this missed C++14 and is not sure how this will be done right on even more time pressure. Sutter says that he is not disagreeing with that. It is a NB comment and must be addressed. Even if it is that there is no consensus for this feature. NB comments sometimes ask for new features. One legitimate outcome is for record of response to be "this was considered and there was no consensus for a change." If NBs want to see digit separators go in. They need to be working with each other before the meeting to come into Chicago with a consensus already formed among all national bodies present, and that will give highest probably outcome for addition in Chicago.

Crowl says that the reason for addressing this now is that if there are any ambiguities introduced with existing string literals then it would be better to do that now. Now it is legal to have `_1` as a UD suffix. There is room for restriction being introduced in C++14 to make room in the future. Sutter says that it makes sense to, but it would need consensus for that going into meeting for having highest likely hood for success.

Van Winkel asks there needs to be consensus between three NBs, but it is about all NBs, correct? Sutter says that NBs who want this change need to be talking about same change--all the wood behind one arrow. They should also be lobbying for the other NBs to back them up.

Miller says that when we get to this NB comment then we say that this is in EWG court. This is different from last time where EWG did not handle issues. Sutter says that Stroustrup is fine with that. First change is that EWG is always open for business. The other change is that we did not receive design change requests in NB comments. The requests were wording change requests. Anything that affects design then EWG needs to be involved in that.

4 Review

4.1 Review and approve resolutions and issues

There were no resolutions to issues.

4.2 Review action items

~~Clamage will pluralize reports and drafts agenda items in meeting to approve multiple drafts. Done.~~
Clamage edited agenda.

5 Closing process

5.1 Establish next agenda

Current agenda will be used for next meeting.

5.2 Future meetings

Meeting in Chicago starting on the 23 September.

Detlef is surprised that there is another meeting in Issaquah. How did this meeting come about?

Sutter says that in Kona it was decide to have two meetings per year. Due to timing the fall 2013 meeting is early and spring 2014 being late there was a gap. In Portland there was discussion if there should be another meeting. The decision for this was deferred to a straw poll in Bristol. Clamage took straw poll and that directed convener to have another meeting in January or February to use for ballot resolution.

Miller says that there was a disconnect. The question was if you have one, will you come. Miller would prefer to see those questions be posed as should we have one. Sutter says that he thought that was the question being asked as well and that he was being directed to schedule a future meeting. In the future there will be more care taken to ensure the correct straw poll is taken.

Liber says there are 98 attendees signed up to Chicago. Sutter thanks Liber and hosts for expanding venue.

5.3 Future mailings

Next mailing is post Chicago that is two to three weeks after. Nelson will give specific dates in Chicago.

5.4 Adjourn

Adjourned by acclamation at 17:25 UTC.