

Document Number: WG21/N0816  
X3J16/95-0216  
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Project: Programming Language C++  
Reply to: Dan Saks  
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Minutes  
ISO/IEC JTC1/SC22/WG21 Meeting No. 14  
5 - 10 November 1995

Kikai-Shinko-Kaikan Bldg.  
Tokyo, Japan

1 Opening and introductions

Harbison convened the meeting at 18:05 (JST) on Sunday, 5 November 1995. He said the WG would follow the standing agenda in SD-0.

1.1 Welcome from host

Kamimura welcomed WG21 to Japan and explained the facilities in the Kikai-Shinko-Kaikan Building.

1.2 Roll call of technical experts

The attendance list appears as Appendix A.

1.3 Select meeting chair

Harbison offered to chair the meeting, and no one objected.

1.4 Select meeting secretary

Harbison affirmed that Corfield would be the secretary for this meeting.

1.5 Select language

Harbison suggested that WG21 conduct this meeting in English, and no one objected.

1.6 Adopt agenda

Harbison proposed adding this item to the agenda:

2.3 Internet access provided by Keio University

WG21 accepted the agenda with this change.

1.7 Select drafting committee

Corfield, Rumsby and Unruh volunteered to serve on the drafting committee. Corfield volunteered to organize the drafting session.

1.8 Approve minutes from previous meeting

Harbison submitted N0733 = 95-0133 for approval as the minutes of the previous meeting, with the following corrections:

-- Delete item 2.3 (it duplicates 1.8.1).

-- Under item 3.5, paragraph 3, sentence 1, change "feature" to

"future".

WG21 accepted the minutes with these changes.

1.9 Review action items from previous meeting

None.

1.10 Recognize documents

Kiefer said he had a revision of Hartinger's paper on 'long long' integral types for distribution at this meeting.

Koshida introduced comments from Japan (N0807 = 95-0207). Kamimura explained that these are not public comments, but rather collected comments from technical experts within Japan that were judged not important enough to include as official CD ballot comments.

Plum said he'd have a paper on extended identifiers and will convene the C Compatibility group to discuss this issue. Discussions on this subject had been going on via email just prior to the meeting.

2 Status, liaison and action item reports

2.1 Small group status reports

None.

2.2 Liaison Reports

2.2.1 SC22 plenary report

Harbison summarized his report on the most recent SC22 plenary (N0776 = 95-0176):

-- SC22 approved WG21's schedule, which planned to allow two meetings to resolve the comments from the second CD ballot (even if we don't need those meetings).

-- ISO rejected the proposed revisions to DIS procedures.

Harbison explained that the rejection means that JTC1 and ISO won't consider the revisions for at least another year, and so we (WG21) will operate under the existing procedures. Under existing procedures:

- a) NBS (national bodies) can make substantive comments on DIS, which we will have to consider (the DIS document is not immutable).
- b) If the DIS ballot fails, we can hold a second DIS ballot without returning to CD stage.

Koenig asked if this means we can still use meetings to resolve problems in the draft during our DIS ballot. Harbison suggested we should not count on making changes to the draft during DIS ballot; rather, we should operate within the spirit of the new procedures (which do not allow such changes). Unruh observed that, even if the new procedures are delayed a year, they will likely apply to us because we are not scheduled to begin DIS ballot for at least a year. Bruck and Plauger agreed that we should not plan to "tweak" the document during the DIS ballot.

Corfield explained that the UK procedures call for a public review only during the DIS ballot (when, under the new procedures, any changes requested could not be applied).

Harbison said we have been criticized for making changes during the CD ballot, even though the NBS understood why we did it and generally supported our efforts to work faster. He said we should not take any

official votes at the July '96 meeting (which occurs during the second CD ballot).

Lajoie asked why NBS would consider it improper for us to make changes during a ballot. Plauger explained how he thought various NBS viewed the process, namely, that the power to make standards rests with the NBS, period. WG21 writes a draft and the NBS decide if they like it. As far as SC22 is concerned, the only input WG21 gets from the balloting process is the comments that arrive by the end of the balloting period. When WG21 made changes to the draft in response to NB comments that arrived early, other NBS might have felt their comments were given lower priority. That's why we should not begin processing NB comments until after the ballot period. Lajoie said that this was just an impediment toward getting a better standard faster. Plauger explained that this process was not intended to work for anything as complicated as a programming language.

Kamimura said that the Japanese panel encountered resistance from their SC22 representatives on forming an NB position early in the ballot period. He added that SC22 may see changes in the draft during balloting as evidence that it is not stable enough for voting.

Plum said the C committee has also been chastised for "advancing the process". He suggested that we should simply not approve a new WP (working paper) during the ballot process.

Harbison offered an alternative. He proposed that, for meetings during the ballot process, WG21 take only straw votes and delay formal votes to the first meeting after the ballot closes. Stroustrup supported Harbison's proposal, and further suggested that we hold a formal vote at that first meeting after the ballot period closes to accept the straw votes held during the ballot period.

Koenig had yet another proposal. He proposed that WG21 maintain both internal and external versions of the WP. WG21 should approve the external version for SC22 balloting, and leave it alone during the ballot while we continue working on the internal version. Bruck said this would still be a problem because we would be asking people to approve a document that's still changing. Koenig tried to make his case more strongly. He suggested that we should regard the WP as completely unofficial. The WP would represent the editor's present thinking as an aid in communicating with the committee. Thus, WG21 would not vote on the WP at all. We would only vote on an "external" draft periodically derived from the WP.

Bruck asked if we could move next year's meeting dates slightly to improve the fit to the ballots. Harbison said no because his earlier analysis indicated that holding the November meeting earlier would not help a great deal, and would also leave WG21 more vulnerable to SC22 slips, such as occurred in the CD ballot.

Plauger agreed with Harbison and Stroustrup. He added that we must be clear that the unofficial version of the draft is really unofficial, not a sham so the committee can continue to do what it has done in the past. Hence, at the beginning of the meeting, attendees could suggest changes to the unofficial draft before voting to accept it.

Koenig asked which version of the WP should go in the mailing. Plauger said we could distribute the WP, but again, we must be clear that it is not an official document. Rumsby suggested we might already be doing this because we don't vote to accept a WP until the meeting that follows the mailing containing that WP.

Plauger again said it was important to follow the procedures as closely as possible.

Koenig said that he could produce WPs that showed the differences from the previous official document (CD) instead of the previous WP. He added that the committee could stop voting to approve the WP precisely because it is not official. Plum agreed. Stroustrup said that the integrated document is a useful tool and we should not lose that. Bruck agreed that altering how the change bars were produced would be a good idea.

Plauger pointed out that SC22 has directed us not take formal votes during a future ballot.

Harbison resumed his summary of the SC22 plenary:

-- The situation regarding electronic document distribution is "improving". PostScript and PDF are becoming acceptable, as is online distribution (with access restrictions so that people can access documents only if they are participating in the C++ standards process).

-- Our general support for LIA (language-independent arithmetic) is still in accordance with SC22's position.

#### 2.2.2 SC22/WG11 (Binding Techniques) report

No report.

#### 2.2.3 SC22/WG14 (C) report

Deferred to the joint meeting with X3J16.

#### 2.2.4 SC22/WG15 (POSIX) report

No report.

#### 2.2.5 SC22/WG20 (Internationalization) report

No report.

#### 2.3 Internet access provided by Keio University

Harbison asked for suggestions on how to manage access to the phone number that Keio University provided for Internet access. Plauger suggested that we "play it by ear" and impose rules later only if necessary.

WG21 agreed to simply inform all WG21+X3J16 members about the phone number for Internet access.

#### 3 New Business

##### 3.1 Review changes to working paper

Deferred to the joint session with X3J16.

##### 3.2 CD ballot results and comment resolution

Harbison said he prepared a summary of all the NB comments from the CD ballot (N0799 = 95-0199). He explained that he must prepare a written "disposition of comments". Some NBs included the "open issues lists" in their comments, but only by reference, and that has made his job harder. He asked that NB representatives track WG21's progress on these open issues to ease his work load when drafting the Disposition of Comments (probably at the next meeting). He wanted to be sure that each issue received appropriate attention.

Lajoie said that the issues have varying degrees of importance. Many of

them are editorial, many have already been resolved, and a few remain as substantive technical issues. Harbison reiterated that the status of the NB comments differs from that of the "open issues lists". We will have a standard once we satisfy the NB comments, regardless of what's left on the open issues lists.

Plauger strengthened Harbison's statement. The convener must produce a disposition of comments, and so we must have a position on every issue no matter how trivial. We must focus on fixing things that NBS believe are broken. We cannot invent anything new, period.

Koenig said the US had been in favor of submitting the "open issues lists" as national comments, but did not. Plum explained that X3 insisted that the US could not submit comments by reference; the US ballot must physically attach any "lists" that it references. Furthermore, the US ballot can not noncommittally specify that the items "must be resolved"; each item must be phrased so that it provides a specific preferred outcome. In view of these requirements from X3, and the lack of time to determine TAG opinion, the X3J16 officers chose to recommend that the US abstain on the CD ballot. Bruck noted that Sweden's comments did include the issues lists by reference.

Unruh asked when the Disposition of Comments is due. Harbison said we effectively have two meetings for this, but we should try to address as many comments as possible at this meeting. WG21 proceeded to discuss the distribution of issues among the clauses of the draft.

Plum said that good progress had been made organizing the library issues but that resolving library issues will probably be the critical path. Harbison said we could still split the library off as a separate work item, but he's uncertain that doing so would improve consensus.

Bruck affirmed Sweden's position that they will not accept a separate library standard and he saw no future in pursuing a split. Plauger said a great deal of progress has been made on the library recently and that it should now be an integral part of the C++ standard. Stroustrup agreed and added that not having a standard library would be disastrous for the C++ community; even having a standard library later would be impossible to defend. Plum said we should not revisit decisions like this unless it is clear that a number of NBS actively want to change the decision.

Clamage favored splitting the library so that we'd have a language standard sooner. This would allow compiler vendors to catch up with the standard. Lajoie countered that vendors are already catching up. Stroustrup said the library is a major part of what is driving compiler writers because it exercises compilers so thoroughly.

In the end, Harbison stated he saw little reason to pursue splitting the library, since no NB at the meeting seemed to be in favor of it.

#### 4 Review and approve resolutions and issues

None.

#### 5 Closing process

##### 5.1 Select chair for next meeting

Harbison offered to prepare the agenda for the next meeting and act as chair.

##### 5.2 Establish next agenda

The committee's agenda will effectively be to resolve the NB comments.

5.3 Future meetings

Deferred to the joint session with X3J16.

5.4 Future mailings

Harbison intends to send paper copies of mailings only to heads of delegations, unless there are objections. Canada is the country most affected by this change, and Lajoie did not see a problem.

5.5 Assign document number(s)

None.

5.6 Review action items

None.

5.7 Any other business

None.

5.8 Thanks to host

WG21 thanked ITJSC for hosting the meeting.

5.9 Adjournment

WG21 recessed at 19:45 on Sunday and reconvened in joint session with X3J16. See the corresponding WG21+X3J16 meeting minutes (N0817 = 95-0217).

Appendix A - Attendance

Name	Affiliation; (*) = Head of Delegation
Lajoie, Josee	Canada (*)
Harbison, Sam	Convener
Stroustrup, Bjarne	Courtesy
Kiefer, Konrad	Germany (*)
Unruh, Erwin	Germany
Kamimura, Tom	Japan (*)
Koshida, Ichiro	Japan
Bruck, Dag	Sweden (*)
Corfield, Sean	UK (*)
Rumsby, Steve	UK
Southworth, Mark	UK
Clamage, Steve	USA
Koenig, Andrew	USA/Project Editor
Plum, Thomas	USA (*)
Plauger, P. J.	WG14 Convener (ex officio)