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X3J16/96-0133
Date: 24 September 1996
Project: Programming Language C++
Reply to: Dan Saks
dsaks@wittenberg.edu

Minutes
ISO/IEC JTC1/SC22/WG21 Meeting No. 16
7 - 12 July 1996

Sheraton Hotel
Stockholm, Sweden

1 Welcome from convener and host

Harbison convened the meeting at 18:05 (MESZ) on Sunday, 7 July 1996. Saks was the secretary.

1.1 Introduce technical experts

The attendees introduced themselves. The attendance list appears as Appendix A.

1.2 Adopt agenda

Harbison presented the proposed agenda SD-0 (revised 28 June 1996), and recommended adding the following item:

2.4 Project Schedule

WG21 accepted the agenda with this changes.

1.3 Select drafting committee

Saks explained that the drafting committee normally meets on Wednesday evening to draft the formal motions. Unfortunately, our host scheduled a reception for Wednesday evening, so we need to schedule the drafting work around it.

Koenig suggested that the drafting work should be part of the scheduled agenda, possibly during the daytime on Thursday. Saks agreed that drafting should be on the agenda, but doing the working in the evening is a more effective use of committee time.

After some discussion, the WG agreed to do as much drafting work as possible on Monday and Tuesday evening. Saks said we should expect some of the drafted motions to change as a result of Wednesday's discussion, but we should still try to get something in writing for each motion by Tuesday night.

As usual, Saks will coordinate the drafting committee. Corfield, Hartinger, Rumsby and Unruh offered to participate.

1.4 Approve minutes from previous meeting

Saks submitted N0879 = 96-0061 for approval as the minutes of the previous meeting. WG21 accepted the minutes without change.

1.5 Review action items from previous meeting

None.

1.6 Recognize documents

Harbison introduced SC24 N 1577 (see item 2.2).

2 New business

2.1 Convener Change

Harbison said he will not serve another three-year term as WG21 convener. The US national body holds the WG21 convenership, and will likely nominate Plum to serve as convener. (A ballot to recommend Plum is still in progress in the US TAG.) If all goes as planned, SC22 will approve Plum as WG21 convener at the SC22 plenary in September, 1996. Harbison said Plum would then resign as US IR (international Representative).

2.2 Liaison reports

Soop presented a liaison statement from SC24/WG6 (SC24 N1577). WG6 is developing a standard for object-oriented multimedia functionality (PREMO). They have identified extensions to the C++ language that they believe they need to create a PREMO binding for C++, and that may be of general use. Specifically, WG6 would like WG21 to consider extending the C++ language to support concurrent processing and synchronization.

Some WG21 members asked why WG6 thought they needed language extensions (as opposed to library facilities) to support their needs. Soop recommended that WG21 members contact Ivan Herman from NNI (Netherlands) and Jim Van Loo from ANSI (USA) for details.

Bruck volunteered to look into the issue on behalf of WG21 in cooperation with Soop.

Stroustrup mentioned that there’s an 800-page report from MIT Press (edited by Wilson) which describes 18 different approaches to concurrency in C++.

Glassborow thought we should stay focused on getting the draft out, and consider this request only after we have completed the standard. Other WG21 members agreed. Bruck said that was desirable.

Harbison agreed to explain WG6’s request to X3J16, and draft a response to WG6 along the lines that Glassborow suggested.

Soop expressed concern that different people are implementing multi-threading extensions in different ways. He would like WG21 to say it will address this eventually. Stroustrup had doubts that everyone could agree on a single standard approach to concurrency in C++.

2.3 CD ballot resolution status

Harbison said he’s relying on each NB (national body) delegation to tell him if they are satisfied with WG21+X3J16’s handling of their comments on the last CD (committee draft) ballot. He invited comments from each delegation.

Kamimura said the progress on extended characters is satisfactory, as is the progress on traits and strings, and on template compilation.

Lajoie said Canada wants to advance the CD, more than it is concerned about any particular resolution to template compilation issue.

Hartinger reported that Germany is still concerned about the template compilation model. He said it’s not clear if the new proposal (from SGI) can be ready in time to submit the draft for another CD ballot this

week. If it is not ready this week, they would prefer to return to the Santa Cruz proposal (to allow inclusion only). Germany is also concerned that iostreams is not ready for CD (it has too many open issues). Hartinger added that some of Germany's smaller issues (mostly in the library) did not yet get a response from WG21+X3J16.

Plum explained that he, Schwarz, Clamage, Myers, and le Mouel met in San Jose, CA several weeks ago to handle most of the 70 open iostreams issues. They drafted proposed resolutions which they will present to the Library WG this week. Harbison asked Hartinger to review Germany's ballot comments to see which have not been addressed.

Bruck said Sweden has two main concerns: 1) keeping the project on schedule, and 2) the template compilation model. He said the SGI proposal appears to be a major step toward resolving (2). Some of Sweden's other issues have been handled, some will "drop on floor", and at least one (division of negative numbers) has been handled by the C committee (SC22/WG14).

Rumsby said most of the UK's issues have been handled. Others that haven't are just editorial nits. Lajoie said she thought all the UK's issues had been handled. Rumsby said he wasn't sure, but in any event, none of the issues would prevent the UK from voting to advance the draft to the next CD ballot.

Harbison emphasized that holding a third CD ballot would be a BAD THING. This second CD should have essentially the form and content of the eventual standard. We should believe that any comments from NBs could likely be handled by localized edits to the draft.

Rumsby said the UK is concerned that incorporating the SGI proposal on template compilation would be too big a change for them to vote for CD this week. However, approving the Spicer/Ball proposal (tabled from the last meeting) would not.

Glassborow said he did not want to vote for another CD until he could see the actual text of the draft. He preferred to vote at the start of the next meeting (in November).

Koenig supported Glassborow's position. He further suggested that we begin the next meeting with a formal motion to approve the CD (possibly with amendments to correct errors.) He added that this does not slip the project schedule by a full meeting (four months), because WG21 could submit the draft for CD immediately after that meeting. There would not be the usual six-week delay to complete the editing after the meeting. Rumsby said he thought Koenig's suggestion is what the UK had in mind.

Harbison said that Koenig's proposal still slips the schedule by a full meeting unless we change our meeting dates a little.

Plum said he personally likes Glassborow's proposal, he's concerned that the world will just know that the C++ standard has slipped its schedule again.

Koenig said he may be relocating his office in next few months and can't commit to any schedule for delivering an updated draft before the November meeting.

Stroustrup asked that WG21 recommend that the technical work on the template compilation model be aimed at achieving consensus based on the SGI proposal.

Plum wanted to make it clear that all we are doing is delaying the editing meeting until the start of the November meeting. We don't want to delay the solution of any problems until next meeting. Others agreed that WG21 would like all substantive changes to C++ to be made by the

end of this week.

3.0 Other business

None.

4 Closing

4.1 Assign permanent document numbers

See SD-1 for document numbers.

4.2 Review action items and issues

None.

4.3 Recess

WG21 recessed at 20:55 on Sunday and reconvened in joint session with X3J16.
See the corresponding WG21+X3J16 meeting minutes (N0880 = 96-0062).

Appendix A - Attendance

Name	Affiliation; (*) = Head of Delegation
Lajoie, Josee	Canada (*)
Harbison, Sam	Convener
Stroustrup, Bjarne	Courtesy
Hartinger, Roland	Germany (*)
Unruh, Erwin	Germany
Kamimura, Tsutomu	Japan (*)
Koshida, Ichiro	Japan
Umekawa, Ryuichi	Japan
Bruck, Dag	Sweden (*)
Jonsson, Fredrik	Sweden
Soop, Karl	Sweden
Corfield, Sean	UK
Glassborow, Francis	UK
Rumsby, Steve	UK (*)
Southworth, Mark	UK
Clamage, Steve	USA / X3J16 Chair
Koenig, Andrew	USA / Project Editor
Plum, Thomas	USA (*)
Saks, Dan	USA / Secretary
Plauger, P. J.	WG14 Convener